

PATENT ABSTRACTS OF JAPAN

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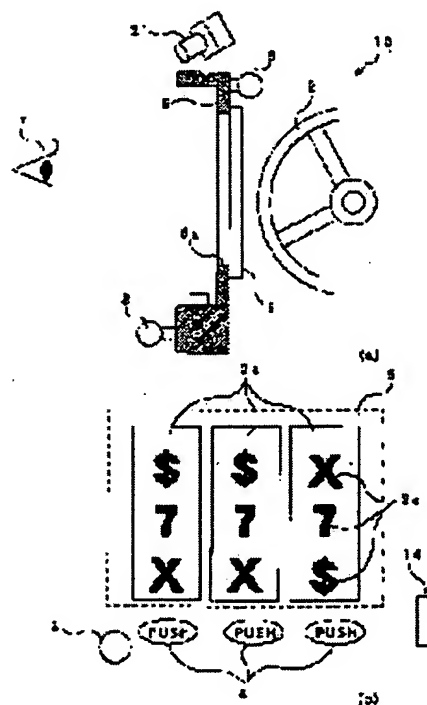
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(54) GAME MACHINE

(57)Abstract:

PROBLEM TO BE SOLVED: To make clear the indication on one display means concerning a game machine provided with superimposed display means.

SOLUTION: A rotary reel display 2 is arranged behind a transparent EL panel 5 and a fluorescent lamp 9 is arranged for illuminating the rotary reel display 2. During the execution of game, the fluorescent lamp 9 is turned on and the indication on the rotary reel display 2 is made clear. When displaying a playing method or the like on the transparent EL panel 5 in standby state, since the fluorescent lamp 9 is turned on, the back rotary reel display 2 or the like is hardly viewed through the transparent EL panel 5 and the indication on the transparent EL panel 5 is made clear.



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CLAIMS

[Claim(s)]

[Claim 1] The game machine characterized by to have the front-face side display means of translucency, the back side display means which are allotted to the back side of this front-face side display means, a condition distinction means distinguish the use condition of a game machine, and the control means which control the recognition condition of said back side display means recognized through said front-face side display means according to the distinction result of said condition distinction means.

[Claim 2] The game machine characterized by controlling the recognition condition of said back side display means when it has a lighting means to illuminate said back side display means, in the game machine according to claim 1 and said control means controls said lighting means according to the distinction result of said condition distinction means.

[Claim 3] It is the game machine characterized by making lighting of said lighting means darker than the time of the running state which is performing the game during the period distinguished when said control means was in the standby condition of not performing the game with said condition distinction means, in the game machine according to claim 2.

[Claim 4] claim 1 thru/or either of 3 -- the game machine characterized by having a front-face side display-control means to display on said front-face side display means different contents in the period judged to be in said running state during the period distinguished in the game machine of a publication when it was in said standby condition with said condition distinction means.

[Claim 5] 4 is [claim 1 thru/or] the game machine characterized by distinguishing from said running state if the action of the game person for continuing a game in order that said condition distinction means may start a game in the game machine of a publication is detected either.

[Claim 6] 5 is [claim 1 thru/or] the game machine characterized by distinguishing from said standby condition if the action of the game person for continuing a game in order that said condition distinction means may start a game in the game machine of a publication stops beyond the setup time either.

[Claim 7] 5 is [claim 1 thru/or] the game machine with which it has an existence-or-nonexistence detection means to detect the existence or nonexistence of the game person who uses this game machine in the game machine of a publication, and said condition distinction means is characterized by distinguishing from said standby condition if existence of a game person is not detected by this existence-or-nonexistence detection means either.

[Claim 8] 7 is [claim 1 thru/or] the game machine characterized by said front-face side display means being a spontaneous light type transparence drop in the game machine of a publication either.

[Translation done.]

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention belongs to the technical field of a game machine.

[0002]

[Description of the Prior Art] After indicating the pattern by fluctuation with a display at a game machine, it indicates by quiescence, and a premium object (a medal and awarded balls) is paid out to a game person side as the combination of the pattern by which it was indicated by quiescence is the combination which shows a hit, or there are some which will be in the game condition (condition specially called a game, a grand prize, etc.) of being easy to acquire much premium objects. A slot machine is one of the former (gestalt which pays out a premium object with a pattern) typical things, and pinball machines, such as a pachinko machine, are one of the latter (gestalt to which a game condition is changed) typical things. Moreover, like the game machine called the so-called pachislot by kind of a slot machine, when a special pattern (for example, 777) gathers, in addition to expenditure of a premium object, there are some which change a game condition to a game specially.

[0003] For example, the slot machine which equips JP,4-109977,A and JP,5-19100,Y with the adjustable display of 3 reel types is indicated, and the slot machine equipped with the adjustable display of 9 reel types is indicated by JP,6-39085,A. On these slot machines, the adjustable display was used only for the display of a pattern, for example, the injection number of sheets of coin, a current game condition, winning-a-prize Rhine, etc. were displayed by LED only for those displays. In addition, there is also an example which is printing winning-a-prize Rhine to covering of the front face of a reel. Moreover, in the slot machine, the example which forms winning-a-prize Rhine on EL tape is indicated by JP,11-99240,A. However, in these means of displaying, a display pattern will be limited and there is a problem which cannot increase the variation of a display.

[0004] On the other hand, about game machines other than a slot machine, the gestalt which combined EL drop with the pachinko machine at JP,61-279272,A or JP,5-177043,A is shown. However, the superposition display for the game face of a board being equipped with this EL drop, and raising game nature, since it is not transparent, either was not completed.

[0005] Moreover, the gestalt equipped with the liquid crystal display of a transparency mold is shown in the front windshield of a pachinko machine at JP,60-61079,U. However, this purpose was not the display for telling a game person termination of a game promptly and raising game nature. Furthermore, in JP,2-19182,A, it is used in order to arrange dot-matrix type LCD in the front section of a slot machine, and for a transparence display to raise game nature and to display the contents of a game. However, since the back light of LCD was needed when the condition of game machines, such as an advertising display, news, and failure, etc. was displayed on LCD waiting [a game machine], a display, its ornament design in back, etc. by this LCD were overlapped, and there was a problem that visibility got worse.

[0006]

[Problem(s) to be Solved by the Invention] This invention aims at enabling the check by looking of one

display of a front-face side display means or a back side display means good at a game person in the game machine which allots a back side display means and performs a superposition display to the back side of the front-face side display means of translucency like [in case only the contents of a display by the front-face side display means want to be conspicuous].

[0007]

[The means for solving a technical problem and an effect of the invention] A back side display means by which a game machine according to claim 1 is arranged on the back side of the front-face side display means of translucency, and this front-face side display means, Since it had a condition distinction means to distinguish the use condition of a game machine, and the control means which controls the recognition condition of said back side display means recognized through said front-face side display means according to the distinction result of said condition distinction means The recognition condition of the back side display means recognized through a front-face side display means according to the use condition of a game machine is controllable. For example, by reducing the recognition condition of the back side display means recognized through a front-face side display means, the contents of a display by the front-face side display means can be made clear, or can be highlighted, the recognition condition of a back side display means can be raised conversely, and the display of a back side display means can also be highlighted. That is, one indication of a front-face side display means or a back side display means is relatively given clear, or a game person can do that a check by looking is possible good by making it conspicuous.

[0008] In this game machine, although opacity is sufficient as the display (for example, a pattern, an alphabetic character, a notation, etc.) of a front-face side display means itself since a front-face side display means and a back side display means perform a superposition display, it requires that a non-displayed field is translucency (transparence is sufficient though natural) (for example, when omitting the perimeter of a pattern, or the display). Of course, the display itself may be translucency. The liquid crystal display of a transparence EL (electroluminescence) panel given in JP,10-91076,A, a USP No. 4,568,928 official report, etc. or a transparency mold is illustrated as a concrete example.

[0009] Mist equipped with a mechanical display means to display a pattern by rotation and a halt of the reel (drum) by which the thing of the gestalt to which a display becomes clear under existence of lighting, for example, a pattern, is drawn as a back side display means, a belt, etc. of body of revolution, EL drop, and the thing that carries out spontaneous light like the dot matrix of CRT and LED are employable. What is necessary is for what is necessary to be just to control the brightness of the lighting, and just to control (brightness) in the strength of the luminescence, if EL drop, CRT, etc. carry out spontaneous light if it is the thing of the gestalt to which a display becomes clear under existence of lighting. In this case, it is also possible to switch off lighting, EL drop, CRT, etc.

[0010] The game machine according to claim 2 is equipped with a lighting means to illuminate said back side display means, in the game machine according to claim 1. Since the recognition condition of said back side display means is controlled when said control means controls said lighting means according to the distinction result of said condition distinction means For example, by making lighting of a lighting means dark (putting out lights also being included), do not highlight the display of a back side display means, or it carries out [it is not visible and]. The contents of a display by the front-face side display means can be made clear, or can be highlighted, lighting of a lighting means can be conversely made brighter than usual, and the display of a back side display means can also be highlighted. That is, a game person can do one display of a front-face side display means or a back side display means as a check by looking is possible good.

[0011] Either the gestalt (the reflected light is visible to a game person) which illuminates a reel and a hair side of belt side, or the gestalt (the transmitted light is visible to a game person) illuminated from the inside side of a reel or a belt is OK as a lighting means. Since lighting of said lighting means is made darker than the time of the running state which is performing the game during the period distinguished when the game machine according to claim 3 had said control means in the standby condition of not performing the game with said condition distinction means, in the game machine according to claim 2, the check by looking of the display of a front-face side display means is attained good to a game person

in a standby condition. For this reason, when front-face that is, side display means, such as introduction of the contents of a game of a game machine or the game approach, a generating track record of the great success in this game machine, guidance at a game store, and other advertisements, perform the display which is unrelated to the game itself in a standby condition, the contents of a display by the front-face side display means can be made clear.

[0012] A game machine according to claim 4 is set to claim 1 thru/or the game machine of any of 3, or a publication. Since it had a front-face side display-control means to display on said front-face side display means different contents in the period judged to be in said running state during the period distinguished when it was in said standby condition with said condition distinction means During activation of a game, it hits by the superposition display with a front-face side display means and a back side display means, variety indicates a blank rich, and it is suitable for displaying messages, such as above-mentioned guidance and an advertisement, in the standby condition.

[0013] a game machine according to claim 5 -- claim 1 thru/or either of 4 -- in the game machine of a publication, since said condition distinction means will be characterized by distinguishing from said running state if the action of the game person for continuing a game in order to start a game is detected, it can distinguish a running state exactly.

[0014] As an example of the action of the game person for continuing a game, in order to start a game, if it is the case of a slot machine, an injection (signal of a medal detection sensor) of a medal is mentioned, and in the case of pinball machines, such as a pachinko machine, actuation (signal of a touch sensor) of a discharge handle is mentioned. Moreover, if it is the game machine of a configuration of borrowing a game medium (a medal and game ball) with a prepaid card and the prepaid card effective in a card reader is inserted, it is good also as an action of the game person for continuing a game, in order to start a game for this. What is necessary is for a sensor etc. just to detect the action of the game person who becomes indispensable as a premise which starts a game in short in case a game is performed. Since it is not necessary to form a new sensor etc., it is excellent in this point to use the above-mentioned example (the signal of a medal detection sensor, the signal of a touch sensor, prepaid card) in that case.

[0015] a game machine according to claim 6 -- claim 1 thru/or either of 5 -- in the game machine of a publication, since said condition distinction means will be characterized by distinguishing from said standby condition if the action of the game person for continuing a game in order to start a game stops beyond the setup time, it can distinguish exactly that it is in the game machine not being used, i.e., a standby condition.

[0016] It has an existence-or-nonexistence detection means to detect the existence or nonexistence of the game person who uses this game machine in the game machine of a publication. a game machine according to claim 7 -- claim 1 thru/or either of 5 -- said condition distinction means If existence of a game person is not detected by this existence-or-nonexistence detection means, since it is characterized by distinguishing from said standby condition, it can distinguish very correctly that it is in the game machine not being used, i.e., a standby condition.

[0017] As an existence-or-nonexistence detection means, sensors, such as photography equipments, such as a CCD camera, and an infrared sensor, are employable. Moreover, in the case of pinball machines, such as a pachinko machine, the signal of the touch sensor of a discharge handle can be used. Furthermore, the chair for game persons may be equipped with a pressure sensor etc., and taking a seat of a game person may be detected.

[0018] a game machine according to claim 8 -- claim 1 thru/or either of 7 -- in the game machine of a publication, since said front-face side display means is a spontaneous light type transporence drop, a clear display is possible for it, and in the non-display condition, since it stops luminescence, it can perform the display of a back side display means clearly as a check by looking is possible. Moreover, by changing the display of a front-face side display means, and un-displaying, that it is hard to be conspicuous relatively, it can carry out or the display by the back side display means can be highlighted.

[0019]

[Embodiment of the Invention] Next, the example of this invention explains the gestalt of

implementation of invention.

[0020]

[Example] Drawing 1 is the schematic diagram of the display of the slot machine 15 of this example. The front frame 11 is equipped with the panel 6, and display window 6a is prepared in the location which meets the game person 7 in the condition of having installed in the game store. Transparence EL panel 5 of the light transmission mold applicable to a front-face side display means is attached in the tooth-back side of a panel 6.

[0021] Moreover, the rotation reel drop 2 applicable to a back side display means is allotted to the back side (interior of the case 10 shown in drawing 2) of transparence EL panel 5. The rotation reel drop 2 consists of motor 2bs (refer to drawing 4) which carry out the rotation drive of three reel 2a and these. Pattern 2c (\$7, X, etc.) illustrated to drawing 1 (b) is drawn on each reel 2a, and three patterns each 2c can be seen from display window 6a. That is, the display of the shape of a matrix of 3x3 is performed by three reel 2a.

[0022] The fluorescent lamp 9 applicable to a lighting means is arranged on the location used as the slanting upper part of transparence EL panel 5 by the inside of the front frame 11, and reel 2a can be illuminated by turning on a fluorescent lamp 9. Furthermore, in order to perform the slot game of the start lever 3 and stop switch 4 grade, the switches and medal input port 14 grade which a game person operates are installed in the front frame 11. As shown in drawing 1 (b), the stop switch 4 is arranged at a time on one location corresponding to each reel 2a.

[0023] and the game person who the upper part of a slot machine 15 is equipped with CCD camera 21, and uses this slot machine 15 -- almost -- the upper half of the body -- photography -- possible -- becoming -- **** . As shown in drawing 2, the front frame 11 is supported to revolve by the case 10 by hinge 10a, and the front frame 11 is equipped with transparence EL panel 5. The drive circuit 12 is unified and it connects with transparence EL panel 5 through harness 12a in the Maine substrate 13 of a body held in the case 10 side.

[0024] Since the front frame 11 is equipped with transparence EL panel 5, if the front frame 11 is opened like illustration, whole transparence EL panel 5 can be exposed. For this reason, check of transparence EL panel 5, repair, etc. are easy, and it excels in maintenance nature. Moreover, since the drive circuit 12 is united with transparence EL panel 5, it is not necessary to connect the drive circuit 12 and transparence EL panel 5 by a harness etc. When it allots in a case 10 (for example, back of the rotation reel drop 2 etc.) or the drive circuit 12 is formed on the Maine substrate 13 of a body, wiring from the case 10 side to the transparence EL panel 5 11, i.e., front frame, side becomes huge, and there is a possibility of causing trouble to closing motion of the front frame 11. However, since the assembly which unifies transparence EL panel 5 and the drive circuit 12, and the display of transparence EL panel 5 takes was collected to the front frame 11 side in the case of this example, harness 12a which connects between a case 10 and the front frames 11 can be managed with necessary minimum. Therefore, harness 12a does not influence closing motion of the front frame 11.

[0025] The important section of the control system of this slot machine 15 is as being shown in drawing 4. CPU20a, ROM20b, RAM20c, 20d of input circuits, output circuit 20e, etc. are mounted in the Maine substrate 13 of a body. Medal injection sensor 14a which detects the medal thrown into medal input port 14, start switch 3a interlocked with the start lever 3, the stop switch 4, the hole computer, etc. are connected to 20d of input circuits, and the Maine substrate 13 of a body can acquire the injection signal from medal injection sensor 14a, the trigger signal from start switch 3a, and the stop signal from the stop switch 4, and can communicate with a hole computer. From a hole computer, information peculiar to the store is offered and the operating gestalt of a game store etc. is used for the display (it mentions later for details) of transparence EL panel 5 in a standby condition.

[0026] Moreover, the field by the side of the game person of transparence EL panel 5 serves as a touch panel, and the information a game person indicates the location touched by the fingertip to be is inputted into the Maine substrate 13 of a body. Furthermore, the output of CCD camera 21 is inputted into the image-processing circuit 22, and the output of the image-processing circuit 22 is inputted into 20d of input circuits. Whether the image-processing circuit's 22 performing an image processing to the image

data of CCD camera 21, and people's being in it ahead of a slot machine 15 and the data in which it is not or a game person's existence or nonexistence are shown are outputted. That is, the existence-or-nonexistence detection means consists of CCD camera 21 and an image-processing circuit 22.

[0027] On the other hand, the drive circuit 12, a fluorescent lamp 9, motor 2b, etc. are connected to output circuit 20e, and control of the contents of a display of transparence EL panel 5 through the drive circuit 12, flashing control of a fluorescent lamp 9, control of motor 2b, etc. are possible for the Maine substrate 13 of a body. Next, actuation of this slot machine 15 is explained.

[0028] There are Mohd (running state) who performs a game, and Mohd (standby condition) who is standing by in a slot machine 15. Activation of a game is explained first. In addition, in the running state, the light is switched on and the fluorescent lamp 9 is fully illuminating reel 2a.

[0029] If a game person throws in a medal from medal input port 14 in order to perform a game, whenever medal injection sensor 14a detects a medal, an injection signal will be outputted, and this will be inputted into the Maine substrate 13 of a body. Then, CPU20a sets up effective winning-a-prize Rhine L1-L5 according to an injection signal (the number of beds), i.e., the supplied number of medals, and as shown in drawing 4, it displays this on transparence EL panel 5. In the case of this example, if the number of beds is one sheet, winning-a-prize Rhine L1 of the middle is confirmed, if the number of beds is two sheets, it is supposed that winning-a-prize Rhine L2 and L3 of an upper case and the lower berth is still more effective, if the number of beds is three sheets, winning-a-prize Rhine L4 and L5 which met the diagonal line further is confirmed, and only effective Rhine is displayed. Since only winning-a-prize Rhine L1-L5 which became effective is displayed with transparence EL panel 5, this can be clearly shown to a game person.

[0030] Moreover, it is also possible to throw in many medals beforehand (making it a credit), and to perform a game. In the case of a credit game, a bed switch is operated, and it chooses the number of beds. If it is operated once, and the number of beds operates one sheet twice and it will operate two sheets 3 times, it will be three sheets and the number of credits will be subtracted only several bed minutes. A setup of effective winning-a-prize Rhine L1-L5 is the same as that of the case of the bed by the above-mentioned medal injection. As shown at drawing 4 in the case of a credit game, the number balance of credits (in the case of illustration three sheets) is displayed on transparence EL panel 5.

[0031] After effective winning-a-prize Rhine L1-L5 is decided by an injection of a medal or actuation of a bed switch, if a game person depresses the start lever 3, the trigger signal from start switch 3a interlocked with this will be inputted into the Maine substrate 13 of a body. Then, CPU20a makes rotation of three motor 2bs start, and rotates three reel 2a. Thereby, a fluctuation indication of the pattern 2c is given.

[0032] Moreover, the shift to winning a prize, bonus mode, or big bonus mode or a blank is judged by whether CPU20a will read the random-number value generated by the software counter which uses a part of RAM20c, if a trigger signal is inputted, and it is in agreement with either of the hit values for which two or more kinds of this are prepared. Winning a prize is won, and there is a rank with a value, for example, it is various from winning a prize of two-sheet expenditure to winning a prize of 15-sheet expenditure.

[0033] And based on this judgment result, the combination of pattern 2c which indicates by quiescence at the time of a halt of reel 2a is decided. Combination of pattern 2c, such as the case of winning a prize, for example, "a diamond, a diamond, and a diamond", "a watermelon, a watermelon and a watermelon", and "cherry --" (left reel 2a is made to indicate the pattern 2c of a cherry by quiescence, and the pattern 31 of other reel 2a is not specified.), is chosen. Moreover, when it opts for the shift to bonus mode, in the shift to big bonus mode by the combination of pattern 2c of "BAR, BAR, BAR", the combination of pattern 2c of "7, 7, 7" is decided. However, since it depends also on the actuation timing [a quiescence indication of which pattern 2c is given] of the stop switch 4 by the game person, it is not that a quiescence indication of the combination of pattern 2c decided here is surely given.

[0034] If a stop signal is inputted by having operated the stop switch 4 after rotation initiation of reel 2a, CPU20a will stop reel 2a corresponding to the operated stop switch 4, and will indicate the pattern 2c by quiescence. Under the present circumstances, although the halt location of reel 2a is controlled to

become the combination of pattern 2c decided in person, since the rotation of reel 2a until it makes it stop from actuation of the stop switch 4 has a limit naturally, CPU20a must be stopped almost immediately (since a game person will have distrust if the time amount from switch actuation to a halt is long). Therefore, it may not become the combination of pattern 2c as decided.

[0035] When all three reel 2a stops, CPU20a works expenditure equipment and makes a medal pay out, if it judged whether the combination of winning a prize would be organized in effective winning-a-prize Rhine L1-L5, and it would put into them in pattern 2c by which it was indicated by quiescence based on the halt location of reel 2a and winning a prize is materialized. In the case of a credit game, it replaces with expenditure of a medal and the number of credits is added.

[0036] If a special combination illustrated above at this time, for example, "BAR, BAR, BAR", is organized, it will shift to bonus mode, for example, if "7, 7, 7" are materialized, it will shift to big bonus mode. In the big bonus game performed in the bonus game and big bonus mode which are performed in bonus mode, it becomes possible for the combination of pattern 2c of "7, 7, 7" to become easy to be organized, for example, and to win many medals. Since the contents of a bonus game and the big bonus game are common knowledge, explanation is omitted.

[0037] Next, a standby condition is explained. What is shown in drawing 5 is the flow chart of the use condition distinction processing which CPU20a repeats for every proper timing (with for example, timer interruption). In this use condition distinction processing, CPU20a judges first whether it is standby status flag F-1 (S41). Since it is shown that it is the flag which shows whether standby status flag F is in the standby condition that the slot machine 15 is not used for a game, and it is already in a standby condition that this is set to 1, this processing is ended without performing substantial processing.

[0038] If standby status flag F is not 1, it will judge whether based on the data from the image-processing circuit 22, the condition that a game person is not 15 seconds or more continuously continues (S42). (when it is got blocked and is not in the standby condition) If it is affirmative judgment (with no game person), standby status flag F is set to 1, and this (S44) processing is ended. If the game is not actually performed S42 in the case of negative judgment (those with a game person), since it is in a standby condition, it is necessary to judge it. Since in the case of this example it is a setup which will be in a standby condition when a bed (an injection of a medal or actuation of the bed switch at the time of a credit) is not performed over 30 seconds or more, it judges whether he has any bed over 30 seconds or more here (S43). And if it is affirmative judgment (with no bed), standby status flag F is set to 1, and this (S44) processing is ended.

[0039] In addition, the time amount (15 seconds of S42, 30 seconds of S43) shown here is instantiation to the last, and can be set as arbitration according to the class of game machine, a operating gestalt, and other conditions. Moreover, when a game machine is started at the time of opening, it can be set as arbitration whether it considers as a standby condition or it considers as a game condition.

[0040] Next, actuation of the slot machine 15 in a standby condition is explained focusing on the display of transparence EL panel 5. As shown in drawing 6, by display-control processing, it judges whether CPU20a has a slot machine 15 in a standby condition by whether standby status flag F is set to 1 at the time of the standby which CPU20a repeats for every proper timing (with for example, timer interruption) (S51). If it is not in a standby condition, this processing will be ended without performing substantial processing.

[0041] A fluorescent lamp 9 is made to switch off that it is in a standby condition (S52), and a menu as shown in transparence EL panel 5 at drawing 7 is displayed (S53). (S51:YES) Since the field by the side of the game person of this transparence EL panel 5 serves as a touch panel, it is that a game person touches one item of the menus by the fingertip, and that item can be chosen.

[0042] Next, it judges whether since a game person is not, although a game person is about whether it is in a standby condition, since a game is not performed, CPU20a is in a standby condition by a game person's existence or nonexistence (S54). The foundation of this decision is data of the image-processing circuit 22. If a game person is not, since a certain actuation is not performed to a slot machine 15, this processing is once ended.

[0043] If a game person is, it will judge whether whether one item of the menus currently displayed on

transparence EL panel 5 was touched and one that is, of items was chosen (S55). When there is no selection, (S55:NO) and CPU20a judges whether there was any injection signal from medal injection sensor 14a (S56). Since initiation of a game is meant, that the medal was thrown in will clear standby status flag F as termination of a standby condition, if the injection signal is inputted (S56:YES) (S57). When there is no injection signal, it returns to (S56:NO) and S55. In addition, in order to give explanation brief, although negative judgment is recurred to S55 by S56, CPU20a is the configuration of once ending this processing and performing other processings, in fact, if it is negative judgment in S56. [0044] If there is selection out of a menu, CPU20a will judge whether "6. game initiation" was chosen (S58). Since it means carrying out declaration of intention that (S58:YES) and a game person perform a game after this when game initiation is chosen, a standby condition is ended also in this case (S57). [0045] When chosen except "6. game initiation", the contents according to (S58:NO) and the selected item are displayed on transparence EL panel 5 (S59). concrete -- "1. -- the alphabetic character which plays, and will explain the approach of the game in this slot machine 15 etc. if it is explanation" of the direction being displayed (referring to drawing 8 (a)), and, if it is "2. today's track record" The count of starting of this slot machine 15, the count of formation of a bonus game or a big bonus game, etc. are displayed (drawing 8 (b)). An indication which introduces other model and other game machines of a slot machine manufacturer if it is "3. model introduction" is given. Opening of the game store in which the slot machine 15 is installed if it is "4. a catalog", When the information about closing time amount, a quantum system, a lucky number system, and which unrestricted operating gestalt is displayed and "5. a meal break" is chosen, the game person who is using this slot machine 15 displays the purport it is temporarily separated from the seat of the purport with lunch etc. (drawing 8 (c)). "1. It plays, explanation" of the direction and the indicative data of "a meal break [5.]" are stored in ROM20b, and "2. today's track record" acquires the contents of 3. "model introduction" and the "catalog" from a hole computer based on the data memorized to RAM20c. [4.] A return is carried out from this processing after these S59 or the above-mentioned S57.

[0046] In addition, although illustration is omitted, when it is not in a standby condition and failure occurs in a slot machine 15, it switches off a fluorescent lamp 9 similarly and displays the contents of failure etc. on transparence EL panel 5. Since in the case of this trouble indication it is hard to carry out when the game is performed, an indication urged that a game is called off to a game person temporarily and a salesclerk is first called for him in that case is given, and a locating fault and the contents of failure are displayed after checking that the game has been called off (for example, an injection of a new medal should do twisting thing).

[0047] Thus, since a fluorescent lamp 9 is switched off and the back side of transparence EL panel 5 becomes dark in case a game and information without direct relation are displayed on transparence EL panel 5 in the state of standby, there is no possibility that the display of transparence EL panel 5 may be overlapped on reel 2a by the side of the back etc., and may stop being able to be visible easily.

[0048] Moreover, since a fluorescent lamp 9 is similarly switched off when displaying other than a game with failure etc., information, such as such failure, can be displayed clearly. Since transparence EL panel 5 displays winning-a-prize Rhine L1-L5, the number of credits, etc. when it is in a running state, a game person can acquire the important information in connection with a game intensively with transparence EL panel 5. Therefore, there is no need of changing a view here and there, and it can concentrate on a game.

[0049] And since those, such as above-mentioned guidance and an advertisement, is displayed in the standby condition, the utility value of transparence EL panel 5 is high, and the contents of the display also become what was rich in variety in the state of standby, respectively the inside of a game. In addition, in this example, CPU20a is functioning as a condition distinction means (use condition distinction processing, S51, S56, S58), a control means (S52), and a front-face side display-control means (for example, S53, S59, and the display at the time of a game).

[0050] As mentioned above, although the gestalt of operation of this invention was explained according to the example, this invention is not limited to these examples. For example, although it is used for menu selection by using the front face of a transparence EL panel as a touch panel in the above-mentioned

example, it is good also as a configuration which is equipped with a cursor manual operation button etc., for example, and makes menu selection by it.

[0051] Or it is good also as a configuration which plays and displays explanation of the direction, today's track record, introduction of a model, a catalog, news, a common advertisement, etc. in cycle in proper sequence, without performing a menu display. Moreover, as shown in drawing 9, a game person's existence or nonexistence are judged based on the image of CCD camera 21, i.e., the data of the image-processing circuit 22, (S61). When a game person is not, a fluorescent lamp 9 is switched off (S62), and it plays to transparency EL panel 5. Explanation of the direction, Today's track record, introduction of a model, a catalog, news, a common advertisement, etc. are displayed in cycle in proper sequence (S63). if a game person is (S61:YES), the display at the time of a game will be performed to transparency EL panel 5 as a game condition (even it turning this on, if the fluorescent lamp 9 has gone out in the state of standby) -- making (S64) -- the said configuration is also possible. In this case, since a standby condition will be ended if a game person takes a seat, it is suitable for the display of the contents which support the so-called ***** which looks at a game machine, without a game person taking a seat.

[0052] Although so-called mechanical drop called a rotation reel drop was used as a back side display means in the above-mentioned example, you may be a spontaneous light type drop like a liquid crystal display, CRT, or EL drop, for example. The recognition condition of this liquid crystal display that lets a front-face side display means pass by controlling the brightness of a back light in the case of a liquid crystal display will change. At CRT, the recognition condition of this CRT will change by controlling the display brightness (putting out lights also being included). In a spontaneous light type drop like EL drop, this spontaneous light type drop will become bright by the on-off control of the energization to this spontaneous light type drop, or it will become dark, and the recognition condition of the spontaneous light type drop which lets a front-face side display means pass according to it changes.

[0053] Or it is easy to be natural even if it can be made not to perform recognition of the back side display means 2 which energizes at this liquid crystal shutter 23, and lets the front-face side display means 5 pass like drawing 10, when the transparency mold liquid crystal shutter 23 is arranged between the back side display means 2 (rotation reel drop) and the front-face side display means 5 and the game machine is not used.

[0054] Moreover, as a front-face side display means, although the transparency EL panel was used in the above-mentioned example, a transparency mold liquid crystal display can be used, for example. In this case, like drawing 11, the transfective reflecting plate 25 may be arranged between the transparency mold liquid crystal display 24 and the back side drop 2 (rotation reel drop), the lighting 26 of a liquid crystal display 24 may be arranged above this transfective reflecting plate 25, and the lighting 9 for back side drop 2 may be arranged to the back side of the transfective reflecting plate 25. The light which was emitted from lighting 9 and reflected with the back side drop 2 by this passes the transfective reflecting plate 25. And when the light from the above-mentioned lighting 26 reflects in the transfective reflecting plate 25, has been recognized very much by the game person at the transparency mold liquid crystal display 24 and makes the back side drop 2 dark, the light from the above-mentioned lighting 26 will reflect in the transfective reflecting plate 25, and will be recognized very much by the game person at the transparency mold liquid crystal display 24. In this example, the spontaneous light type drop, then lighting 9 like CRT or EL drop are unnecessary in the back side drop 2.

[0055] In addition, although the example explains the slot machine, this invention can also be applied to the game machine of other gestalten, such as a pachinko machine.

[Translation done.]

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TECHNICAL FIELD

[Field of the Invention] This invention belongs to the technical field of a game machine.
[0002]

[Translation done.]

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PRIOR ART

[Description of the Prior Art] After indicating the pattern by fluctuation with a display at a game machine, it indicates by quiescence, and a premium object (a medal and awarded balls) is paid out to a game person side as the combination of the pattern by which it was indicated by quiescence is the combination which shows a hit, or there are some which will be in the game condition (condition specially called a game, a grand prize, etc.) of being easy to acquire much premium objects. A slot machine is one of the former (gestalt which pays out a premium object with a pattern) typical things, and pinball machines, such as a pachinko machine, are one of the latter (gestalt to which a game condition is changed) typical things. Moreover, like the game machine called the so-called pachislot by kind of a slot machine, when a special pattern (for example, 777) gathers, in addition to expenditure of a premium object, there are some which change a game condition to a game specially.

[0003] For example, the slot machine which equips JP,4-109977,A and JP,5-19100,Y with the adjustable display of 3 reel types is indicated, and the slot machine equipped with the adjustable display of 9 reel types is indicated by JP,6-39085,A. On these slot machines, the adjustable display was used only for the display of a pattern, for example, the injection number of sheets of coin, a current game condition, winning-a-prize Rhine, etc. were displayed by LED only for those displays. In addition, there is also an example which is printing winning-a-prize Rhine to covering of the front face of a reel. Moreover, in the slot machine, the example which forms winning-a-prize Rhine on EL tape is indicated by JP,11-99240,A. However, in these means of displaying, a display pattern will be limited and there is a problem which cannot increase the variation of a display.

[0004] On the other hand, about game machines other than a slot machine, the gestalt which combined EL drop with the pachinko machine at JP,61-279272,A or JP,5-177043,A is shown. However, the superposition display for the game face of a board being equipped with this EL drop, and raising game nature, since it is not transparent, either was not completed.

[0005] Moreover, the gestalt equipped with the liquid crystal display of a transparency mold is shown in the front windshield of a pachinko machine at JP,60-61079,U. However, this purpose was not the display for telling a game person termination of a game promptly and raising game nature. Furthermore, in JP,2-19182,A, it is used in order to arrange dot-matrix type LCD in the front section of a slot machine, and for a transparence display to raise game nature and to display the contents of a game. However, since the back light of LCD was needed when the condition of game machines, such as an advertising display, news, and failure, etc. was displayed on LCD waiting [a game machine], a display, its ornament design in back, etc. by this LCD were overlapped, and there was a problem that visibility got worse.

[Translation done.]

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EFFECT OF THE INVENTION

[The means for solving a technical problem and an effect of the invention] A back side display means by which a game machine according to claim 1 is arranged on the back side of the front-face side display means of translucency, and this front-face side display means, Since it had a condition distinction means to distinguish the use condition of a game machine, and the control means which controls the recognition condition of said back side display means recognized through said front-face side display means according to the distinction result of said condition distinction means The recognition condition of the back side display means recognized through a front-face side display means according to the use condition of a game machine is controllable. For example, by reducing the recognition condition of the back side display means recognized through a front-face side display means, the contents of a display by the front-face side display means can be made clear, or can be highlighted, the recognition condition of a back side display means can be raised conversely, and the display of a back side display means can also be highlighted. That is, one indication of a front-face side display means or a back side display means is relatively given clear, or a game person can do that a check by looking is possible good by making it conspicuous.

[0008] In this game machine, although opacity is sufficient as the display (for example, a pattern, an alphabetic character, a notation, etc.) of a front-face side display means itself since a front-face side display means and a back side display means perform a superposition display, it requires that a non-displayed field is translucency (transparence is sufficient though natural) (for example, when omitting the perimeter of a pattern, or the display). Of course, the display itself may be translucency. The liquid crystal display of a transparence EL (electroluminescence) panel given in JP,10-91076,A, a USP No. 4,568,928 official report, etc. or a transparency mold is illustrated as a concrete example.

[0009] Mist equipped with a mechanical display means to display a pattern by rotation and a halt of the reel (drum) by which the thing of the gestalt to which a display becomes clear under existence of lighting, for example, a pattern, is drawn as a back side display means, a belt, etc. of body of revolution, EL drop, and the thing that carries out spontaneous light like the dot matrix of CRT and LED are employable. What is necessary is for what is necessary to be just to control the brightness of the lighting, and just to control (brightness) in the strength of the luminescence, if EL drop, CRT, etc. carry out spontaneous light if it is the thing of the gestalt to which a display becomes clear under existence of lighting. In this case, it is also possible to switch off lighting, EL drop, CRT, etc.

[0010] The game machine according to claim 2 is equipped with a lighting means to illuminate said back side display means, in the game machine according to claim 1. Since the recognition condition of said back side display means is controlled when said control means controls said lighting means according to the distinction result of said condition distinction means For example, by making lighting of a lighting means dark (putting out lights also being included), do not highlight the display of a back side display means, or it carries out [it is not visible and]. The contents of a display by the front-face side display means can be made clear, or can be highlighted, lighting of a lighting means can be conversely made brighter than usual, and the display of a back side display means can also be highlighted. That is, a game person can do one display of a front-face side display means or a back side

display means as a check by looking is possible good.

[0011] Either the gestalt (the reflected light is visible to a game person) which illuminates a reel and a hair side of belt side, or the gestalt (the transmitted light is visible to a game person) illuminated from the inside side of a reel or a belt is OK as a lighting means. Since lighting of said lighting means is made darker than the time of the running state which is performing the game during the period distinguished when the game machine according to claim 3 had said control means in the standby condition of not performing the game with said condition distinction means, in the game machine according to claim 2, the check by looking of the display of a front-face side display means is attained good to a game person in a standby condition. For this reason, when front-face that is, side display means, such as introduction of the contents of a game of a game machine or the game approach, a generating track record of the great success in this game machine, guidance at a game store, and other advertisements, perform the display which is unrelated to the game itself in a standby condition, the contents of a display by the front-face side display means can be made clear.

[0012] A game machine according to claim 4 is set to claim 1 thru/or the game machine of any of 3, or a publication. Since it had a front-face side display-control means to display on said front-face side display means different contents in the period judged to be in said running state during the period distinguished when it was in said standby condition with said condition distinction means During activation of a game, it hits by the superposition display with a front-face side display means and a back side display means, variety indicates a blank rich, and it is suitable for displaying messages, such as above-mentioned guidance and an advertisement, in the standby condition.

[0013] a game machine according to claim 5 -- claim 1 thru/or either of 4 -- in the game machine of a publication, since said condition distinction means will be characterized by distinguishing from said running state if the action of the game person for continuing a game in order to start a game is detected, it can distinguish a running state exactly.

[0014] As an example of the action of the game person for continuing a game, in order to start a game, if it is the case of a slot machine, an injection (signal of a medal detection sensor) of a medal is mentioned, and in the case of pinball machines, such as a pachinko machine, actuation (signal of a touch sensor) of a discharge handle is mentioned. Moreover, if it is the game machine of a configuration of borrowing a game medium (a medal and game ball) with a prepaid card and the prepaid card effective in a card reader is inserted, it is good also as an action of the game person for continuing a game, in order to start a game for this. What is necessary is for a sensor etc. just to detect the action of the game person who becomes indispensable as a premise which starts a game in short in case a game is performed. Since it is not necessary to form a new sensor etc., it is excellent in this point to use the above-mentioned example (the signal of a medal detection sensor, the signal of a touch sensor, prepaid card) in that case.

[0015] a game machine according to claim 6 -- claim 1 thru/or either of 5 -- in the game machine of a publication, since said condition distinction means will be characterized by distinguishing from said standby condition if the action of the game person for continuing a game in order to start a game stops beyond the setup time, it can distinguish exactly that it is in the game machine not being used, i.e., a standby condition.

[0016] It has an existence-or-nonexistence detection means to detect the existence or nonexistence of the game person who uses this game machine in the game machine of a publication. a game machine according to claim 7 -- claim 1 thru/or either of 5 -- said condition distinction means If existence of a game person is not detected by this existence-or-nonexistence detection means, since it is characterized by distinguishing from said standby condition, it can distinguish very correctly that it is in the game machine not being used, i.e., a standby condition.

[0017] As an existence-or-nonexistence detection means, sensors, such as photography equipments, such as a CCD camera, and an infrared sensor, are employable. Moreover, in the case of pinball machines, such as a pachinko machine, the signal of the touch sensor of a discharge handle can be used. Furthermore, the chair for game persons may be equipped with a pressure sensor etc., and taking a seat of a game person may be detected.

[0018] a game machine according to claim 8 -- claim 1 thru/or either of 7 -- in the game machine of a

publication, since said front-face side display means is a spontaneous light type transparence drop, a clear display is possible for it, and in the non-display condition, since it stops luminescence, it can perform the display of a back side display means clearly as a check by looking is possible. Moreover, by changing the display of a front-face side display means, and un-displaying, that it is hard to be conspicuous relatively, it can carry out or the display by the back side display means can be highlighted.

[0019]

[Embodiment of the Invention] Next, the example of this invention explains the gestalt of implementation of invention.

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] This invention aims at enabling the check by looking of one display of a front-face side display means or a back side display means good at a game person in the game machine which allots a back side display means and performs a superposition display to the back side of the front-face side display means of translucency like [in case only the contents of a display by the front-face side display means want to be conspicuous].

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EXAMPLE

[Example] Drawing 1 is the schematic diagram of the display of the slot machine 15 of this example. The front frame 11 is equipped with the panel 6, and display window 6a is prepared in the location which meets the game person 7 in the condition of having installed in the game store. Transparence EL panel 5 of the light transmission mold applicable to a front-face side display means is attached in the tooth-back side of a panel 6.

[0021] Moreover, the rotation reel drop 2 applicable to a back side display means is allotted to the back side (interior of the case 10 shown in drawing 2) of transparence EL panel 5. The rotation reel drop 2 consists of motor 2bs (refer to drawing 4) which carry out the rotation drive of three reel 2a and these. Pattern 2c (\$7, X, etc.) illustrated to drawing 1 (b) is drawn on each reel 2a, and three patterns each 2c can be seen from display window 6a. That is, the display of the shape of a matrix of 3x3 is performed by three reel 2a.

[0022] The fluorescent lamp 9 applicable to a lighting means is arranged on the location used as the slanting upper part of transparence EL panel 5 by the inside of the front frame 11, and reel 2a can be illuminated by turning on a fluorescent lamp 9. Furthermore, in order to perform the slot game of the start lever 3 and stop switch 4 grade, the switches and medal input port 14 grade which a game person operates are installed in the front frame 11. As shown in drawing 1 (b), the stop switch 4 is arranged at a time on one location corresponding to each reel 2a.

[0023] and the game person who the upper part of a slot machine 15 is equipped with CCD camera 21, and uses this slot machine 15 -- almost -- the upper half of the body -- photography -- possible -- becoming -- **** . As shown in drawing 2, the front frame 11 is supported to revolve by the case 10 by hinge 10a, and the front frame 11 is equipped with transparence EL panel 5. The drive circuit 12 is unified and it connects with transparence EL panel 5 through harness 12a in the Maine substrate 13 of a body held in the case 10 side.

[0024] Since the front frame 11 is equipped with transparence EL panel 5, if the front frame 11 is opened like illustration, whole transparence EL panel 5 can be exposed. For this reason, check of transparence EL panel 5, repair, etc. are easy, and it excels in maintenance nature. Moreover, since the drive circuit 12 is united with transparence EL panel 5, it is not necessary to connect the drive circuit 12 and transparence EL panel 5 by a harness etc. When it allots in a case 10 (for example, back of the rotation reel drop 2 etc.) or the drive circuit 12 is formed on the Maine substrate 13 of a body, wiring from the case 10 side to the transparence EL panel 5 11, i.e., front frame, side becomes huge, and there is a possibility of causing trouble to closing motion of the front frame 11. However, since the assembly which unifies transparence EL panel 5 and the drive circuit 12, and the display of transparence EL panel 5 takes was collected to the front frame 11 side in the case of this example, harness 12a which connects between a case 10 and the front frames 11 can be managed with necessary minimum. Therefore, harness 12a does not influence closing motion of the front frame 11.

[0025] The important section of the control system of this slot machine 15 is as being shown in drawing 4. CPU20a, ROM20b, RAM20c, 20d of input circuits, output circuit 20e, etc. are mounted in the Maine substrate 13 of a body. Medal injection sensor 14a which detects the medal thrown into medal input port

14, start switch 3a interlocked with the start lever 3, the stop switch 4, the hole computer, etc. are connected to 20d of input circuits, and the Maine substrate 13 of a body can acquire the injection signal from medal injection sensor 14a, the trigger signal from start switch 3a, and the stop signal from the stop switch 4, and can communicate with a hole computer. From a hole computer, information peculiar to the store is offered and the operating gestalt of a game store etc. is used for the display (it mentions later for details) of transparency EL panel 5 in a standby condition.

[0026] Moreover, the field by the side of the game person of transparency EL panel 5 serves as a touch panel, and the information a game person indicates the location touched by the fingertip to be is inputted into the Maine substrate 13 of a body. Furthermore, the output of CCD camera 21 is inputted into the image-processing circuit 22, and the output of the image-processing circuit 22 is inputted into 20d of input circuits. Whether the image-processing circuit's 22 performing an image processing to the image data of CCD camera 21, and people's being in it ahead of a slot machine 15 and the data in which it is not or a game person's existence or nonexistence are shown are outputted. That is, the existence-or-nonexistence detection means consists of CCD camera 21 and an image-processing circuit 22.

[0027] On the other hand, the drive circuit 12, a fluorescent lamp 9, motor 2b, etc. are connected to output circuit 20e, and control of the contents of a display of transparency EL panel 5 through the drive circuit 12, flashing control of a fluorescent lamp 9, control of motor 2b, etc. are possible for the Maine substrate 13 of a body. Next, actuation of this slot machine 15 is explained.

[0028] There are Mohd (running state) who performs a game, and Mohd (standby condition) who is standing by in a slot machine 15. Activation of a game is explained first. In addition, in the running state, the light is switched on and the fluorescent lamp 9 is fully illuminating reel 2a.

[0029] If a game person throws in a medal from medal input port 14 in order to perform a game, whenever medal injection sensor 14a detects a medal, an injection signal will be outputted, and this will be inputted into the Maine substrate 13 of a body. Then, CPU20a sets up effective winning-a-prize Rhine L1-L5 according to an injection signal (the number of beds), i.e., the supplied number of medals, and as shown in drawing 4, it displays this on transparency EL panel 5. In the case of this example, if the number of beds is one sheet, winning-a-prize Rhine L1 of the middle is confirmed, if the number of beds is two sheets, it is supposed that winning-a-prize Rhine L2 and L3 of an upper case and the lower berth is still more effective, if the number of beds is three sheets, winning-a-prize Rhine L4 and L5 which met the diagonal line further is confirmed, and only effective Rhine is displayed. Since only winning-a-prize Rhine L1-L5 which became effective is displayed with transparency EL panel 5, this can be clearly shown to a game person.

[0030] Moreover, it is also possible to throw in many medals beforehand (making it a credit), and to perform a game. In the case of a credit game, a bed switch is operated, and it chooses the number of beds. If it is operated once, and the number of beds operates one sheet twice and it will operate two sheets 3 times, it will be three sheets and the number of credits will be subtracted only several bed minutes. A setup of effective winning-a-prize Rhine L1-L5 is the same as that of the case of the bed by the above-mentioned medal injection. As shown at drawing 4 in the case of a credit game, the number balance of credits (in the case of illustration three sheets) is displayed on transparency EL panel 5.

[0031] After effective winning-a-prize Rhine L1-L5 is decided by an injection of a medal or actuation of a bed switch, if a game person depresses the start lever 3, the trigger signal from start switch 3a interlocked with this will be inputted into the Maine substrate 13 of a body. Then, CPU20a makes rotation of three motor 2bs start, and rotates three reel 2a. Thereby, a fluctuation indication of the pattern 2c is given.

[0032] Moreover, the shift to winning a prize, bonus mode, or big bonus mode or a blank is judged by whether CPU20a will read the random-number value generated by the software counter which uses a part of RAM20c, if a trigger signal is inputted, and it is in agreement with either of the hit values for which two or more kinds of this are prepared. Winning a prize is won, and there is a rank with a value, for example, it is various from winning a prize of two-sheet expenditure to winning a prize of 15-sheet expenditure.

[0033] And based on this judgment result, the combination of pattern 2c which indicates by quiescence

at the time of a halt of reel 2a is decided. Combination of pattern 2c, such as the case of winning a prize, for example, "a diamond, a diamond, and a diamond", "a watermelon, a watermelon and a watermelon", and "cherry --" (left reel 2a is made to indicate the pattern 2c of a cherry by quiescence, and the pattern 31 of other reel 2a is not specified.), is chosen. Moreover, when it opts for the shift to bonus mode, in the shift to big bonus mode by the combination of pattern 2c of "BAR, BAR, BAR", the combination of pattern 2c of "7, 7, 7" is decided. However, since it depends also on the actuation timing [a quiescence indication of which pattern 2c is given] of the stop switch 4 by the game person, it is not that a quiescence indication of the combination of pattern 2c decided here is surely given.

[0034] If a stop signal is inputted by having operated the stop switch 4 after rotation initiation of reel 2a, CPU20a will stop reel 2a corresponding to the operated stop switch 4, and will indicate the pattern 2c by quiescence. Under the present circumstances, although the halt location of reel 2a is controlled to become the combination of pattern 2c decided in person, since the rotation of reel 2a until it makes it stop from actuation of the stop switch 4 has a limit naturally, CPU20a must be stopped almost immediately (since a game person will have distrust if the time amount from switch actuation to a halt is long). Therefore, it may not become the combination of pattern 2c as decided.

[0035] When all three reel 2a stops, CPU20a works expenditure equipment and makes a medal pay out, if it judged whether the combination of winning a prize would be organized in effective winning-a-prize Rhine L1-L5, and it would put into them in pattern 2c by which it was indicated by quiescence based on the halt location of reel 2a and winning a prize is materialized. In the case of a credit game, it replaces with expenditure of a medal and the number of credits is added.

[0036] If a special combination illustrated above at this time, for example, "BAR, BAR, BAR", is organized, it will shift to bonus mode, for example, if "7, 7, 7" are materialized, it will shift to big bonus mode. In the big bonus game performed in the bonus game and big bonus mode which are performed in bonus mode, it becomes possible for the combination of pattern 2c of "7, 7, 7" to become easy to be organized, for example, and to win many medals. Since the contents of a bonus game and the big bonus game are common knowledge, explanation is omitted.

[0037] Next, a standby condition is explained. What is shown in drawing 5 is the flow chart of the use condition distinction processing which CPU20a repeats for every proper timing (with for example, timer interruption). In this use condition distinction processing, CPU20a judges first whether it is standby status flag F-1 (S41). Since it is shown that it is the flag which shows whether standby status flag F is in the standby condition that the slot machine 15 is not used for a game, and it is already in a standby condition that this is set to 1, this processing is ended without performing substantial processing.

[0038] If standby status flag F is not 1, it will judge whether based on the data from the image-processing circuit 22, the condition that a game person is not 15 seconds or more continuously continues (S42). (when it is got blocked and is not in the standby condition) If it is affirmative judgment (with no game person), standby status flag F is set to 1, and this (S44) processing is ended. If the game is not actually performed S42 in the case of negative judgment (those with a game person), since it is in a standby condition, it is necessary to judge it. Since in the case of this example it is a setup which will be in a standby condition when a bed (an injection of a medal or actuation of the bed switch at the time of a credit) is not performed over 30 seconds or more, it judges whether he has any bed over 30 seconds or more here (S43). And if it is affirmative judgment (with no bed), standby status flag F is set to 1, and this (S44) processing is ended.

[0039] In addition, the time amount (15 seconds of S42, 30 seconds of S43) shown here is instantiation to the last, and can be set as arbitration according to the class of game machine, a operating gestalt, and other conditions. Moreover, when a game machine is started at the time of opening, it can be set as arbitration whether it considers as a standby condition or it considers as a game condition.

[0040] Next, actuation of the slot machine 15 in a standby condition is explained focusing on the display of transparence EL panel 5. As shown in drawing 6, by display-control processing, it judges whether CPU20a has a slot machine 15 in a standby condition by whether standby status flag F is set to 1 at the time of the standby which CPU20a repeats for every proper timing (with for example, timer interruption) (S51). If it is not in a standby condition, this processing will be ended without performing

substantial processing.

[0041] A fluorescent lamp 9 is made to switch off that it is in a standby condition (S52), and a menu as shown in transparence EL panel 5 at drawing 7 is displayed (S53). (S51:YES) Since the field by the side of the game person of this transparence EL panel 5 serves as a touch panel, it is that a game person touches one item of the menus by the fingertip, and that item can be chosen.

[0042] Next, it judges whether since a game person is not, although a game person is about whether it is in a standby condition, since a game is not performed, CPU20a is in a standby condition by a game person's existence or nonexistence (S54). The foundation of this decision is data of the image-processing circuit 22. If a game person is not, since a certain actuation is not performed to a slot machine 15, this processing is once ended.

[0043] If a game person is, it will judge whether whether one item of the menus currently displayed on transparence EL panel 5 was touched and one that is, of items was chosen (S55). When there is no selection, (S55:NO) and CPU20a judges whether there was any injection signal from medal injection sensor 14a (S56). Since initiation of a game is meant, that the medal was thrown in will clear standby status flag F as termination of a standby condition, if the injection signal is inputted (S56:YES) (S57). When there is no injection signal, it returns to (S56:NO) and S55. In addition, in order to give explanation brief, although negative judgment is recurred to S55 by S56, CPU20a is the configuration of once ending this processing and performing other processings, in fact, if it is negative judgment in S56.

[0044] If there is selection out of a menu, CPU20a will judge whether "6. game initiation" was chosen (S58). Since it means carrying out declaration of intention that (S58:YES) and a game person perform a game after this when game initiation is chosen, a standby condition is ended also in this case (S57).

[0045] When chosen except "6. game initiation", the contents according to (S58:NO) and the selected item are displayed on transparence EL panel 5 (S59). concrete -- "1. -- the alphabetic character which plays, and will explain the approach of the game in this slot machine 15 etc. if it is explanation" of the direction being displayed (referring to drawing 8 (a)), and, if it is "2. today's track record" The count of starting of this slot machine 15, the count of formation of a bonus game or a big bonus game, etc. are displayed (drawing 8 (b)). An indication which introduces other model and other game machines of a slot machine manufacturer if it is "3. model introduction" is given. Opening of the game store in which the slot machine 15 is installed if it is "4. a catalog", When the information about closing time amount, a quantum system, a lucky number system, and which unrestricted operating gestalt is displayed and "5. a meal break" is chosen, the game person who is using this slot machine 15 displays the purport it is temporarily separated from the seat of the purport with lunch etc. (drawing 8 (c)). "1. It plays, explanation" of the direction and the indicative data of "a meal break [5.]" are stored in ROM20b, and "2. today's track record" acquires the contents of 3. "model introduction" and the "catalog" from a hole computer based on the data memorized to RAM20c. [4.] A return is carried out from this processing after these S59 or the above-mentioned S57.

[0046] In addition, although illustration is omitted, when it is not in a standby condition and failure occurs in a slot machine 15, it switches off a fluorescent lamp 9 similarly and displays the contents of failure etc. on transparence EL panel 5. Since in the case of this trouble indication it is hard to carry out when the game is performed, an indication urged that a game is called off to a game person temporarily and a salesclerk is first called for him in that case is given, and a locating fault and the contents of failure are displayed after checking that the game has been called off (for example, an injection of a new medal should do twisting thing).

[0047] Thus, since a fluorescent lamp 9 is switched off and the back side of transparence EL panel 5 becomes dark in case a game and information without direct relation are displayed on transparence EL panel 5 in the state of standby, there is no possibility that the display of transparence EL panel 5 may be overlapped on reel 2a by the side of the back etc., and may stop being able to be visible easily.

[0048] Moreover, since a fluorescent lamp 9 is similarly switched off when displaying other than a game with failure etc., information, such as such failure, can be displayed clearly. Since transparence EL panel 5 displays winning-a-prize Rhine L1-L5, the number of credits, etc. when it is in a running state, a game person can acquire the important information in connection with a game intensively with transparence

EL panel 5. Therefore, there is no need of changing a view here and there, and it can concentrate on a game.

[0049] And since those, such as above-mentioned guidance and an advertisement, is displayed in the standby condition, the utility value of transparence EL panel 5 is high, and the contents of the display also become what was rich in variety in the state of standby, respectively the inside of a game. In addition, in this example, CPU20a is functioning as a condition distinction means (use condition distinction processing, S51, S56, S58), a control means (S52), and a front-face side display-control means (for example, S53, S59, and the display at the time of a game).

[0050] As mentioned above, although the gestalt of operation of this invention was explained according to the example, this invention is not limited to these examples. For example, although it is used for menu selection by using the front face of a transparence EL panel as a touch panel in the above-mentioned example, it is good also as a configuration which is equipped with a cursor manual operation button etc., for example, and makes menu selection by it.

[0051] Or it is good also as a configuration which plays and displays explanation of the direction, today's track record, introduction of a model, a catalog, news, a common advertisement, etc. in cycle in proper sequence, without performing a menu display. Moreover, as shown in drawing 9, a game person's existence or nonexistence are judged based on the image of CCD camera 21, i.e., the data of the image-processing circuit 22, (S61). When a game person is not, a fluorescent lamp 9 is switched off (S62), and it plays to transparence EL panel 5. Explanation of the direction, Today's track record, introduction of a model, a catalog, news, a common advertisement, etc. are displayed in cycle in proper sequence (S63). if a game person is (S61:YES), the display at the time of a game will be performed to transparence EL panel 5 as a game condition (even it turning this on, if the fluorescent lamp 9 has gone out in the state of standby) -- making (S64) -- the said configuration is also possible. In this case, since a standby condition will be ended if a game person takes a seat, it is suitable for the display of the contents which support the so-called ***** which looks at a game machine, without a game person taking a seat.

[0052] Although so-called mechanical drop called a rotation reel drop was used as a back side display means in the above-mentioned example, you may be a spontaneous light type drop like a liquid crystal display, CRT, or EL drop, for example. The recognition condition of this liquid crystal display that lets a front-face side display means pass by controlling the brightness of a back light in the case of a liquid crystal display will change. At CRT, the recognition condition of this CRT will change by controlling the display brightness (putting out lights also being included). In a spontaneous light type drop like EL drop, this spontaneous light type drop will become bright by the on-off control of the energization to this spontaneous light type drop, or it will become dark, and the recognition condition of the spontaneous light type drop which lets a front-face side display means pass according to it changes.

[0053] Or it is easy to be natural even if it can be made not to perform recognition of the back side display means 2 which energizes at this liquid crystal shutter 23, and lets the front-face side display means 5 pass like drawing 10, when the transparency mold liquid crystal shutter 23 is arranged between the back side display means 2 (rotation reel drop) and the front-face side display means 5 and the game machine is not used.

[0054] Moreover, as a front-face side display means, although the transparence EL panel was used in the above-mentioned example, a transparency mold liquid crystal display can be used, for example. In this case, like drawing 11, the transfective reflecting plate 25 may be arranged between the transparency mold liquid crystal display 24 and the back side drop 2 (rotation reel drop), the lighting 26 of a liquid crystal display 24 may be arranged above this transfective reflecting plate 25, and the lighting 9 for back side drop 2 may be arranged to the back side of the transfective reflecting plate 25. The light which was emitted from lighting 9 and reflected with the back side drop 2 by this passes the transfective reflecting plate 25. And when the light from the above-mentioned lighting 26 reflects in the transfective reflecting plate 25, has been recognized very much by the game person at the transparency mold liquid crystal display 24 and makes the back side drop 2 dark, the light from the above-mentioned lighting 26 will reflect in the transfective reflecting plate 25, and will be recognized very much by the

game person at the transparency mold liquid crystal display 24. In this example, the spontaneous light type drop, then lighting 9 like CRT or EL drop are unnecessary in the back side drop 2.
[0055] In addition, although the example explains the slot machine, this invention can also be applied to the game machine of other gestalten, such as a pachinko machine.

[Translation done.]

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the schematic diagram of the important section of the slot machine of an example, and drawing 1 (a) is an outline sectional view, and drawing 1 (b) is the schematic diagram of the configuration of a display.

[Drawing 2] It is a schematic diagram in the condition of having opened the front frame in the slot machine of an example.

[Drawing 3] It is the instantiation Fig. of a display of a transparence EL panel when the game is performed by the slot machine of an example.

[Drawing 4] It is a block diagram explaining the control system of the slot machine of an example.

[Drawing 5] It is the flow chart of the use condition distinction processing which CPU performs in the slot machine of an example.

[Drawing 6] It is the flow chart of a display control at the time of the standby which CPU performs in the slot machine of an example.

[Drawing 7] It is the instantiation Fig. of a menu display in the standby condition in the slot machine of an example.

[Drawing 8] Guidance in the standby condition in the slot machine of an example etc. is the instantiation Fig. of a display.

[Drawing 9] It is the flow chart of the modification of use condition distinction processing.

[Drawing 10] It is the instantiation Fig. of a configuration of controlling the recognition condition of a back side display means by the transparency mold liquid crystal shutter.

[Drawing 11] It is the instantiation Fig. of a configuration of controlling the recognition condition of a back side display means by the transfective reflecting plate.

[Description of Notations]

2 Rotation Reel Drop (Back Side Display Means)

2a Reel

5 Transparence EL Panel (Front-Face Side Display Means)

9 Fluorescent Lamp (Lighting Means)

13 Main Substrate of Body

15 Slot Machine (Game Machine)

20a CPU (a condition distinction means, a control means, front-face side display-control means)

21 CCD Camera (Existence-or-Nonexistence Detection Means)

22 Image-Processing Circuit (Existence-or-Nonexistence Detection Means)

[Translation done.]

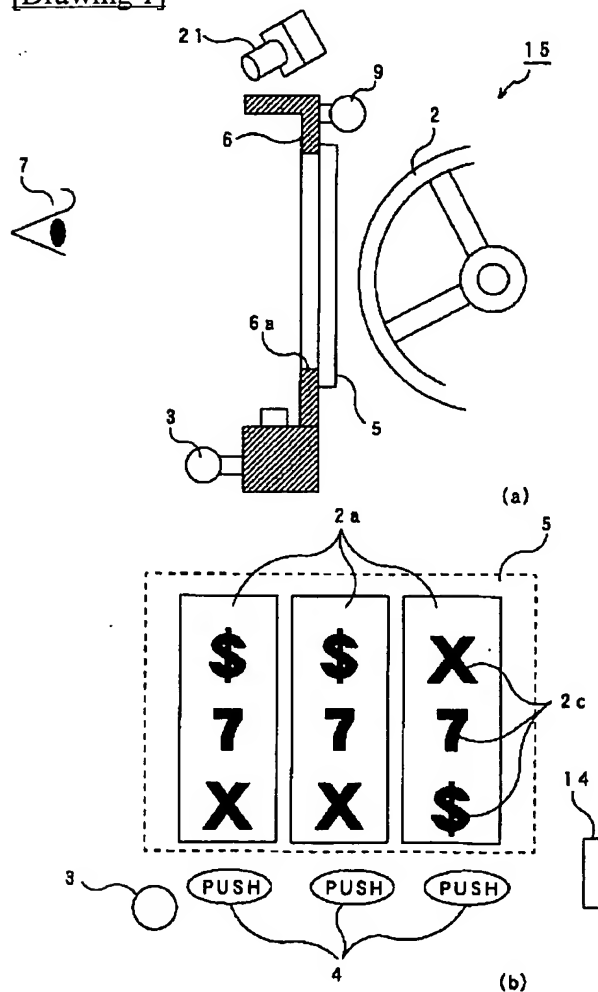
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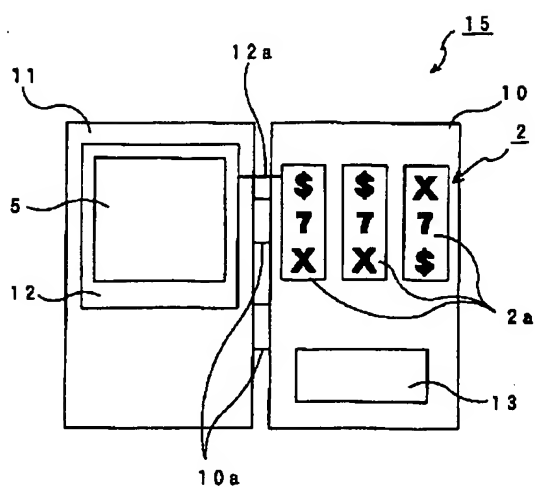
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DRAWINGS

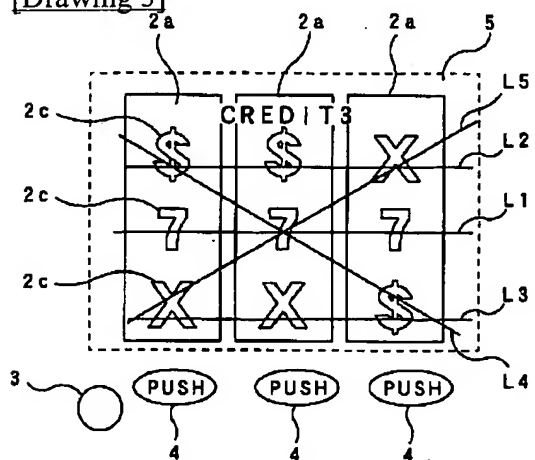
[Drawing 1]



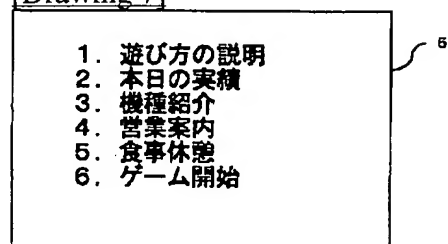
[Drawing 2]



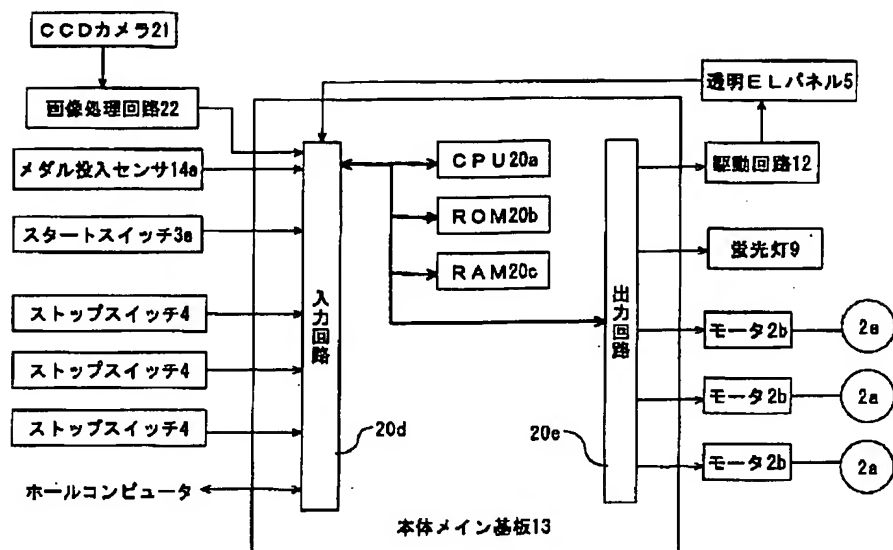
[Drawing 3]



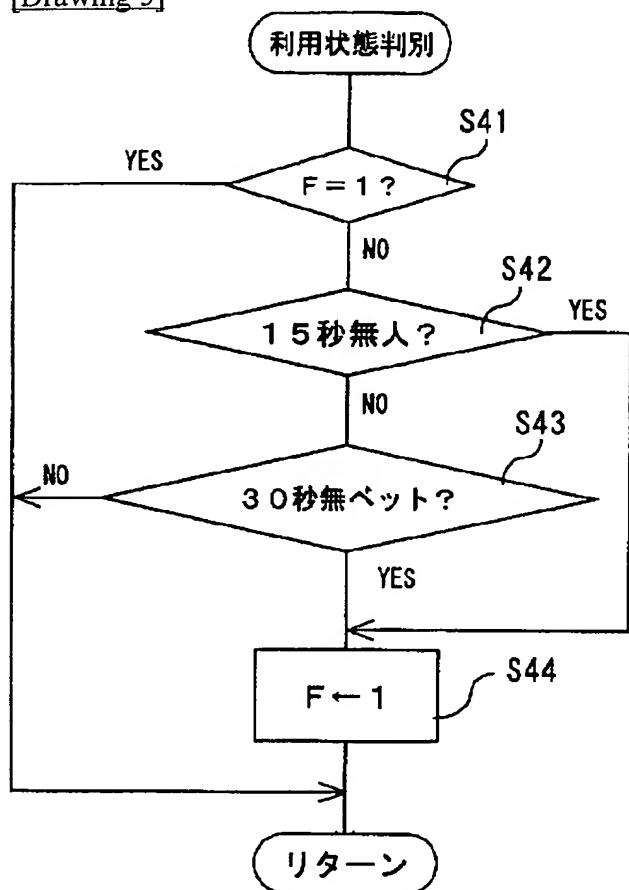
[Drawing 7]



[Drawing 4]



[Drawing 5]



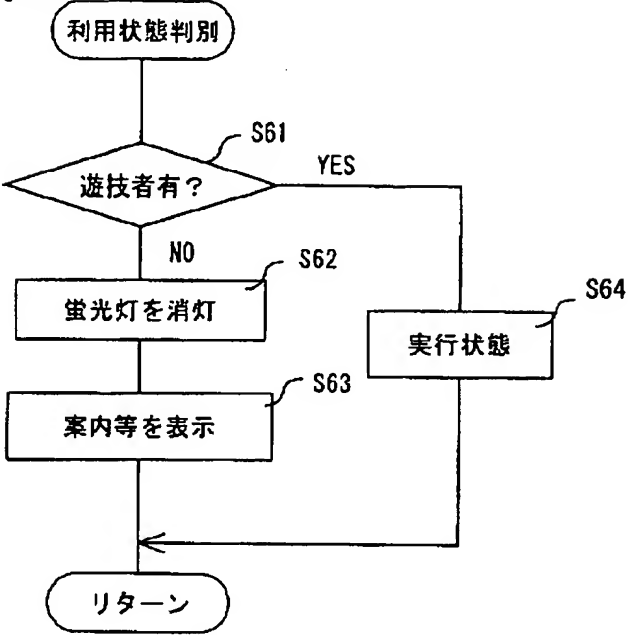
[Drawing 8]

(a) このスロットマシンでの遊技は・・・

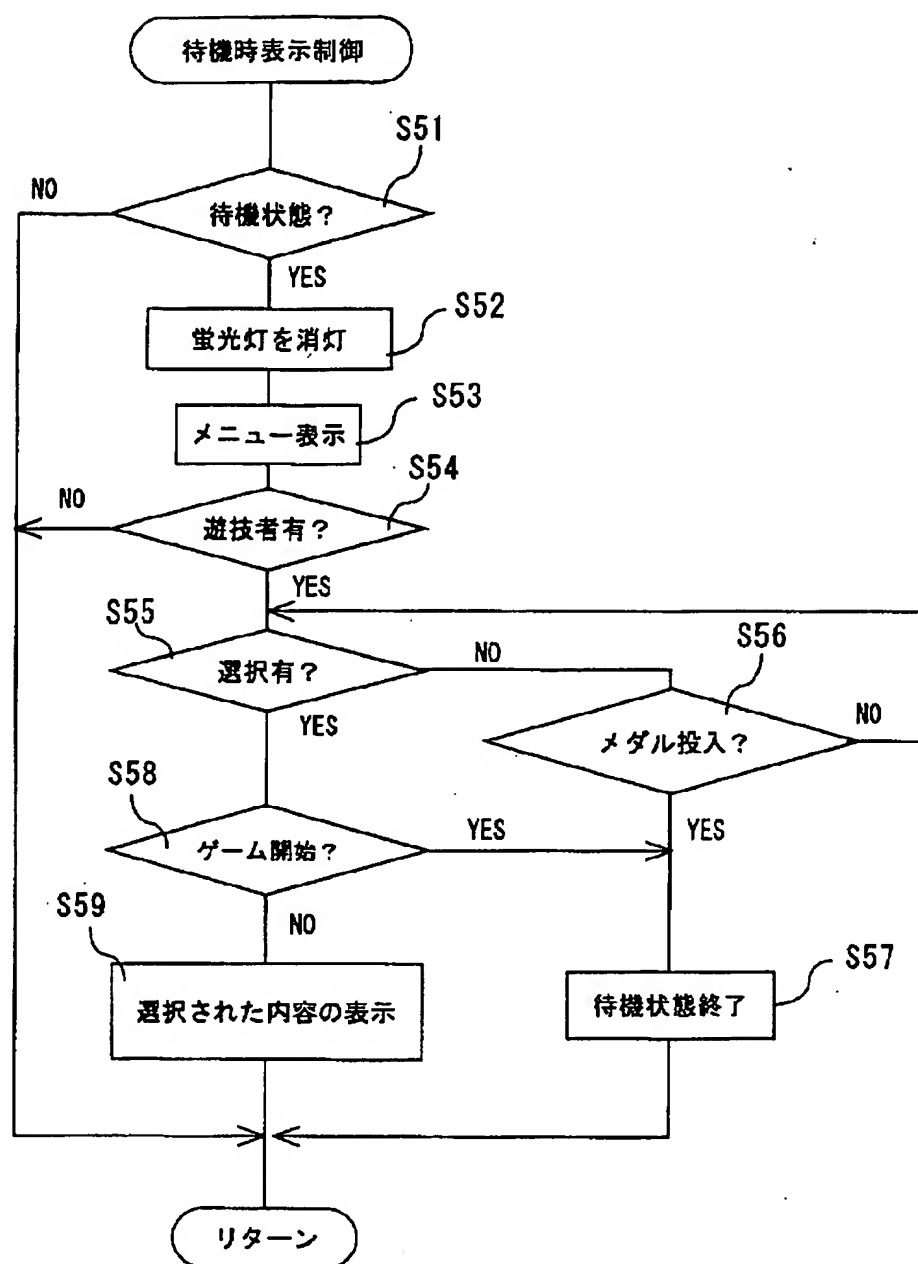
(b) 本日の実績
始動回数：・・・回
ボーナス：・・・回
ビッグ：・・・回

(c) ただいま食事中です。しばらくの間・・・

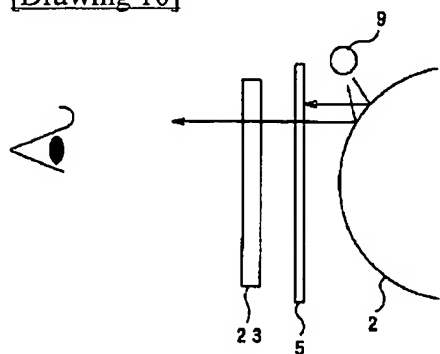
[Drawing 9]



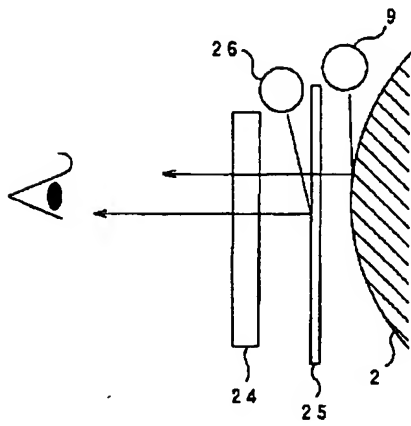
[Drawing 6]



[Drawing 10]



[Drawing 11]



[Translation done.]

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CORRECTION OR AMENDMENT

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[FI]

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 512 F
 511 A

[Procedure revision]
 [Filing Date] October 28, Heisei 14 (2002. 10.28)
 [Procedure amendment 1]
 [Document to be Amended] Specification
 [Item(s) to be Amended] 0009
 [Method of Amendment] Modification
 [Proposed Amendment]
 [0009] A thing equipped with a mechanical display means to display a pattern by rotation and a halt of the reel (drum) by which the thing of the gestalt to which a display becomes clear under existence of lighting, for example, a pattern, is drawn as a back side display means, a belt, etc. of body of revolution, and EL drop and the thing which carries out spontaneous light like the dot matrix of CRT and LED are employable. What is necessary is for what is necessary to be just to control the brightness of the lighting, and just to control (brightness) in the strength of the luminescence, if EL drop, CRT, etc. carry out spontaneous light if it is the thing of the gestalt to which a display becomes clear under existence of lighting. In this case, it is also possible to switch off lighting, EL drop, CRT, etc.
 [Procedure amendment 2]
 [Document to be Amended] Specification
 [Item(s) to be Amended] 0029
 [Method of Amendment] Modification

[Proposed Amendment]

[0029] If a game person throws in a medal from medal input port 14 in order to perform a game, whenever medal injection sensor 14a detects a medal, an injection signal will be outputted, and this will be inputted into the Maine substrate 13 of a body. Then, CPU20a sets up effective winning-a-prize Rhine L1-L5 according to an injection signal (the number of beds), i.e., the supplied number of medals, and as shown in drawing 3, it displays this on transparence EL panel 5. In the case of this example, if the number of beds is one sheet, winning-a-prize Rhine L1 of the middle is confirmed, if the number of beds is two sheets, it is supposed that winning-a-prize Rhine L2 and L3 of an upper case and the lower berth is still more effective, if the number of beds is three sheets, winning-a-prize Rhine L4 and L5 which met the diagonal line further is confirmed, and only effective Rhine is displayed. Since only winning-a-prize Rhine L1-L5 which became effective is displayed with transparence EL panel 5, this can be clearly shown to a game person.

[Procedure amendment 3]

[Document to be Amended] Specification

[Item(s) to be Amended] 0030

[Method of Amendment] Modification

[Proposed Amendment]

[0030] Moreover, it is also possible to throw in many medals beforehand (making it a credit), and to perform a game. In the case of a credit game, a bed switch is operated, and it chooses the number of beds. If it is operated once, and the number of beds operates one sheet twice and it will operate two sheets 3 times, it will be three sheets and the number of credits will be subtracted only several bed minutes. A setup of effective winning-a-prize Rhine L1-L5 is the same as that of the case of the bed by the above-mentioned medal injection. As shown at drawing 3 in the case of a credit game, the number balance of credits (in the case of illustration three sheets) is displayed on transparence EL panel 5.

[Procedure amendment 4]

[Document to be Amended] Specification

[Item(s) to be Amended] 0033

[Method of Amendment] Modification

[Proposed Amendment]

[0033] And based on this judgment result, the combination of pattern 2c which indicates by quiescence at the time of a halt of reel 2a is decided. Combination of pattern 2c, such as the case of winning a prize, for example, "a diamond, a diamond, and a diamond", "a watermelon, a watermelon and a watermelon", and "cherry --" (making left reel 2a indicating the pattern 2c of a cherry by quiescence, pattern 2c of other reel 2a does not specify.), is chosen. Moreover, when it opts for the shift to bonus mode, in the shift to big bonus mode by the combination of pattern 2c of "BAR, BAR, BAR", the combination of pattern 2c of "7, 7, 7" is decided. However, since it depends also on the actuation timing [a quiescence indication of which pattern 2c is given] of the stop switch 4 by the game person, it is not that a quiescence indication of the combination of pattern 2c decided here is surely given.

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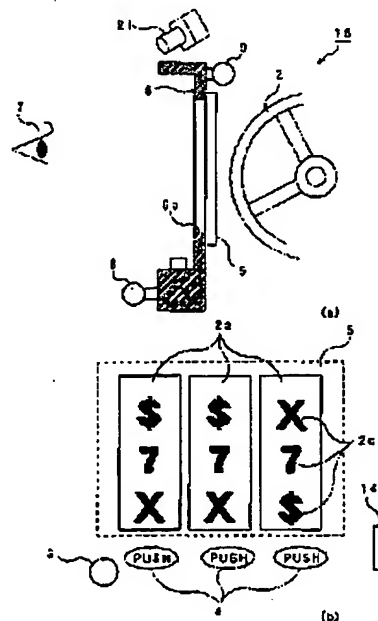
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(54) 【発明の名称】 遊技機

(57) 【要約】

【課題】 重畳する表示手段を備える遊技機において、一方の表示を明瞭にすること。

【解決手段】 透明ELパネル5の背後に回転リール表示器2が配され、また回転リール表示器2を照明するための蛍光灯9が配されている。ゲームの真行中は蛍光灯9を点灯させて回転リール表示器2の表示を明瞭にし、待機状態で透明ELパネル5に遊技方法などを表示する場合には蛍光灯9を消灯するので、背後の回転リール表示器2等が透明ELパネル5を通して見えにくくなり、その分透明ELパネル5の表示が明瞭になる。



(2)

特開2001-252394

1

【特許請求の範囲】

【請求項1】 透光性の前面側表示手段と、

該前面側表示手段の背後側に配される背後側表示手段と、

遊技機の利用状態を判別する状態判別手段と、

前記状態判別手段の判別結果に応じて前記前面側表示手段を通して認識される前記背後側表示手段の認識具合を制御する制御手段とを備えたことを特徴とする遊技機。

【請求項2】 請求項1記載の遊技機において、

前記背後側表示手段を照明する照明手段を備えており、

前記制御手段が前記状態判別手段の判別結果に応じて前記照明手段を制御することにより前記背後側表示手段の認識具合が制御されることを特徴とする遊技機。

【請求項3】 請求項2記載の遊技機において、

前記制御手段は、前記状態判別手段により遊技を実行していない待機状態にあると判別された期間中は遊技を実行している実行状態のときよりも前記照明手段の照明を暗くさせることを特徴とする遊技機。

【請求項4】 請求項1ないし3のいずれか記載の遊技機において、

前記状態判別手段により前記待機状態にあると判別された期間中と前記実行状態にあると判断された期間中とで異なる内容を、前記前面側表示手段に表示させる前面側表示制御手段を備えたことを特徴とする遊技機。

【請求項5】 請求項1ないし4のいずれか記載の遊技機において、

前記状態判別手段は、遊技を開始するための或いは遊技を継続するための遊技者の行為を検出すると前記実行状態と判別することを特徴とする遊技機。

【請求項6】 請求項1ないし5のいずれか記載の遊技機において、

前記状態判別手段は、遊技を開始するための或いは遊技を継続するための遊技者の行為が設定時間以上途絶えると前記待機状態と判別することを特徴とする遊技機。

【請求項7】 請求項1ないし5のいずれか記載の遊技機において、

該遊技機を使用する遊技者の存否を検出する存否検出手段を備え、

前記状態判別手段は、該存否検出手段によって遊技者の存在が検出されなければ前記待機状態と判別することを特徴とする遊技機。

【請求項8】 請求項1ないし7のいずれか記載の遊技機において、

前記前面側表示手段は自発光型の透明表示器であることを特徴とする遊技機。

【発明の詳細な説明】

【0001】

【発明の属する技術分野】本発明は、遊技機の技術分野に属する。

【0002】

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【従来の技術】遊技機には表示装置にて図柄を変動表示した後に静止表示し、その静止表示された図柄の組み合わせが当たりを示す組み合わせであると、遊技者側に景品体（メダルや賞球）を払い出したり、多数の景品体を獲得しやすい遊技状態（特別遊技、特賞などと呼ばれる状態）になるものがある。前者（図柄によって景品体を払い出す形態）の代表的なものにスロットマシンがあり、後者（遊技状態を変化させる形態）の代表的なものにパチンコ機などの弾球遊技機がある。また、スロットマシンの一種でいわゆるパチスロと呼ばれる遊技機のように、特別な図柄（例えば777）が揃うと景品体の払出に加えて、遊技状態を特別遊技に変化させるものもある。

【0003】例えば特開平4-109977号公報や実公昭5-19100号公報などには3リール式の変表示装置を備えるスロットマシンが開示され、特開平6-39085号公報には9リール式の変表示装置を備えるスロットマシンが開示されている。これらのスロットマシンでは、可変表示装置は図柄の表示のみに使用され、例えばコインの投入枚数、現在の遊技状態、入賞ラインなどは、それらの表示専用のLEDによって表示していた。なお、入賞ラインをリール前面のカバーに印刷している例もある。また、特開平11-99240号公報には、スロットマシンにおいて、入賞ラインをELテープで形成する例が記載されている。しかし、これらの表示方式では表示パターンが限定されてしまい、表示のバリエーションを増やせない問題がある。

【0004】一方、スロットマシン以外の遊技機については、特開昭61-279272号公報や特開平5-177043号公報に、パチンコ機にEL表示器を組み合わせた形態が示されている。しかし、このEL表示器は遊技盤面に装着されており、また透明でもないために、ゲーム性を高めるための重畳表示はできなかった。

【0005】また、実開昭60-61079号公報にはパチンコ機の前面ガラスに透過型の液晶表示器を備える形態が示されている。しかし、この目的は遊技の終了を速やかに遊技者に伝えるものであり、ゲーム性を高めるための表示ではなかった。さらに、特開平2-19182号公報では、ドットマトリクスタイプのLCDをスロットマシンの前面部に配置して、透明表示によりゲーム性を高めかつ遊技内容を表示するために使用している。しかし、遊技機の待機中にLCDに広告表示、ニュース、故障等の遊技機の状態などを表示する場合、LCDのバックライトが必要となるので、このLCDによる表示とその背後の装飾デザイン等とが重畳し、視認性が悪化するという問題があった。

【0006】

【発明が解決しようとする課題】本発明は、透光性の前面側表示手段の背後側に背後側表示手段を配して重畳表示を行う遊技機において、例えば前面側表示手段による

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表示内容だけを目立たせたい場合のように、前面側表示手段または背後側表示手段の一方の表示を遊技者に良好に視認可能とすることを目的としている。

【0007】

【課題を解決するための手段及び発明の効果】請求項1記載の遊技機は、透光性の前面側表示手段と、該前面側表示手段の背後側に配される背後側表示手段と、遊技機の利用状態を判別する状態判別手段と、前記状態判別手段の判別結果に応じて前記前面側表示手段を通して認識される前記背後側表示手段の認識具合を制御する制御手段とを備えたので、遊技機の利用状態に応じて前面側表示手段を通して認識される背後側表示手段の認識具合を制御できる。例えば、前面側表示手段を通して認識される背後側表示手段の認識具合を低下させることで前面側表示手段による表示内容を明瞭にしたり目立たせることができ、逆に背後側表示手段の認識具合を高めて背後側表示手段の表示を目立たせることもできる。つまり、前面側表示手段または背後側表示手段の一方の表示を相対的に明瞭にしたり目立たせることで遊技者に良好に視認可能とできる。

【0008】この遊技機においては、前面側表示手段と背後側表示手段とによって重畳表示を行うので、前面側表示手段の表示自体（例えば図柄、文字、記号など）は不透明でもよいが、無表示の領域（例えば図柄の周囲あるいは表示を行っていないとき）は透光性（当然ながら透明でもよい）であることを要する。もちろん、表示自体が透光性であっても構わない。具体的な例として特開平10-91076号公報、USP4,568,928号公報等に記載の透明EL（エレクトロルミネッセンス）パネルや透過型の液晶表示器が例示される。

【0009】背後側表示手段としては、照明の存在下で表示が明瞭になる形態のもの、例えば図柄が描かれているリール（ドラム）やベルト等の回転体の回転と停止で図柄を表示する機械的な表示手段を備えるもや、EL表示器、CRT、LEDのドットマトリクスのように自発光するものを採用できる。照明の存在下で表示が明瞭になる形態のものであれば、その照明の明るさを制御すればよいし、EL表示器、CRT等の自発光するものならその発光の強さ（強度）を制御すればよい。この際に照明やEL表示器、CRT等を消灯することも可能である。

【0010】請求項2記載の遊技機は、請求項1記載の遊技機において、前記背後側表示手段を照明する照明手段を備えており、前記制御手段が前記状態判別手段の判別結果に応じて前記照明手段を制御することにより前記背後側表示手段の認識具合が制御されるので、例えば照明手段の照明を暗く（消灯も含む）することにより、背後側表示手段の表示を目立たせなく或いは見えなくして、前面側表示手段による表示内容を明瞭にしたり目立たせることができ、逆に照明手段の照明を通常よりも明

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るくして背後側表示手段の表示を目立たせることもできる。つまり、前面側表示手段または背後側表示手段の一方の表示を遊技者に良好に視認可能とできる。

【0011】照明手段は、例えばリールやベルトの表面を照明する（遊技者には反射光が見える）形態とリールやベルトの内面側から照明する（遊技者には透過光が見える）形態のどちらでも構わない。請求項3記載の遊技機は、請求項2記載の遊技機において、前記制御手段は、前記状態判別手段により遊技を実行していない待機状態にあると判別された期間中は遊技を実行している実行状態のときよりも前記照明手段の照明を暗くさせるので、待機状態のときには前面側表示手段の表示が遊技者に良好に視認可能となる。このため、待機状態の時に遊技機のゲーム内容や遊技方法の紹介、この遊技機における大当たりの発生実績、遊技店の案内、その他の広告等、つまり前面側表示手段にて遊技そのものには関係がない表示を行う場合に、前面側表示手段による表示内容を明瞭にすることができる。

【0012】請求項4記載の遊技機は、請求項1ないし3のいずれか記載の遊技機において、前記状態判別手段により前記待機状態にあると判別された期間中と前記実行状態にあると判断された期間中とで異なる内容を、前記前面側表示手段に表示させる前面側表示制御手段を備えたので、遊技の実行中は前面側表示手段と背後側表示手段との重畳表示によって当たり外れの表示をバラエティ豊かにし、待機状態では上述の案内や広告などのメッセージを表示するのに適している。

【0013】請求項5記載の遊技機は、請求項1ないし4のいずれか記載の遊技機において、前記状態判別手段は、遊技を開始するための或いは遊技を継続するための遊技者の行為を検出すると前記実行状態と判別することとを特徴とするので、実行状態を的確に判別できる。

【0014】遊技を開始するための或いは遊技を継続するための遊技者の行為の例としては、スロットマシンの場合ならメダルの投入（メダル検出センサの信号）が挙げられ、パチンコ機などの弾球遊技機の場合には発射ハンドルの操作（タッチセンサの信号）が挙げられる。また、プリペイドカードにて遊技媒体（メダルや遊技球）を借り受ける構成の遊技機なら、カードリーダーに有効なプリペイドカードが差し込まれていれば、これを遊技を開始するための或いは遊技を継続するための遊技者の行為としてもよい。要は、遊技を行う際に或いは遊技を開始する前提として必須となる遊技者の行為をセンサなどで検出すればよいのである。その際に、上記の例（メダル検出センサの信号、タッチセンサの信号、プリペイドカード）を利用するのは、新規なセンサなどを設ける必要がないから、この点で優れている。

【0015】請求項6記載の遊技機は、請求項1ないし5のいずれか記載の遊技機において、前記状態判別手段は、遊技を開始するための或いは遊技を継続するための

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遊技者の行為が設定時間以上途絶えると前記待機状態と判別することを特徴とするので、遊技機が利用されていないことすなわち待機状態にあることを的確に判別できる。

【0016】請求項7記載の遊技機は、請求項1ないし5のいずれか記載の遊技機において、該遊技機を使用する遊技者の存否を検出する存否検出手段を備え、前記状態判別手段は、該存否検出手段によって遊技者の存在が検出されなければ前記待機状態と判別することを特徴とするから、遊技機が利用されていないことすなわち待機状態にあることをきわめて正確に判別できる。

【0017】存否検出手段としてはCCDカメラ等の撮影装置や赤外線センサ等のセンサを採用できる。また、パチンコ機などの弾球遊技機の場合には発射ハンドルのタッチセンサの信号を利用できる。さらに、遊技者用の椅子に圧力センサ等を備えて、遊技者の着席を検出してよい。

【0018】請求項8記載の遊技機は、請求項1ないし7のいずれか記載の遊技機において、前記前面側表示手段は自発光型の透明表示器であるから、明瞭な表示が可能であり、非表示状態では発光を停止するから背後側表示手段の表示を明瞭に視認可能とできる。また、前面側表示手段の表示、非表示を切り替えることで背後側表示手段による表示を相対的に目立ち難くしたり目立たせたりできる。

【0019】

【発明の実施の形態】次に、本発明の実施例により発明の実施の形態を説明する。

【0020】

【実施例】図1は本実施例のスロットマシン15の表示部の概要図である。前面枠11にはパネル6が装着されており、遊技店に設置した状態で遊技者7に対面する位置に表示窓6aが設けられている。パネル6の背面側には、前面側表示手段に該当する光透過型の透明Eパネル5が取り付けられている。

【0021】また、透明Eパネル5の背後側（図2に示す筐体10の内部）には、背後側表示手段に該当する回転リール表示器2が配されている。回転リール表示器2は、3個のリール2aとこれらを回転駆動するモータ2b（図4参照）等から構成されている。各リール2aには、図1（b）に例示する図柄2c（\$、7、X等）が描かれており、表示窓6aからは各3個の図柄2cを見ることができる。つまり、3つのリール2aにより3×3のマトリクス状の表示が行われる。

【0022】前面枠11の内側で透明Eパネル5の斜め上方となる位置には、照明手段に該当する蛍光灯9が配されており、蛍光灯9を点灯することでリール2aを照明できる。さらに前面枠11には、スタートレバー3、ストップスイッチ4等のスロットゲームを行うために遊技者が操作するスイッチ類やメダル投入口14等が

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設置されている。図1（b）に示すように、ストップスイッチ4は、各リール2aに対応する位置に1個ずつ配されている。

【0023】そして、スロットマシン15の上部にはCCDカメラ21が備えられており、このスロットマシン15を使用する遊技者のほぼ上半身を撮影可能になっている。図2に示すように、前面枠11はヒンジ10aによって筐体10に軸支されており、透明Eパネル5は前面枠11に装着されている。透明Eパネル5には、駆動回路12が一体化されており、筐体10側に收容されている本体メイン基板13とはハーネス12aを介して接続されている。

【0024】透明Eパネル5が前面枠11に装着されているので、図示のように前面枠11を開けば透明Eパネル5の全体を露出させることができる。このため、透明Eパネル5の点検、修理等が容易でありメンテナンス性に優れている。また、駆動回路12を透明Eパネル5に一体化しているので、駆動回路12と透明Eパネル5とをハーネス等で接続する必要がない。駆動回路12を筐体10内（例えば回転リール表示器2の背後等）に配したり、本体メイン基板13上に設けると、筐体10側から透明Eパネル5すなわち前面枠11側への配線が膨大となり、前面枠11の開閉に支障をきたすおそれがある。しかし、本実施例の場合は透明Eパネル5及び駆動回路12を一体化して、透明Eパネル5の表示に要するアセンブリを前面枠11側に集約したので、筐体10と前面枠11との間を結ぶハーネス12aは必要最低限で済む。よって、ハーネス12aが前面枠11の開閉に影響することもない。

【0025】このスロットマシン15の制御系の要部は図4に示すとおりである。本体メイン基板13にはCPU20a、ROM20b、RAM20c、入力回路20d、出力回路20e等が実装されている。入力回路20dには、メダル投入口14に投入されたメダルを検出するメダル投入センサ14a、スタートレバー3に連動するスタートスイッチ3a、ストップスイッチ4、ホールコンピュータ等が接続されており、本体メイン基板13は、メダル投入センサ14aからの投入信号、スタートスイッチ3aからの始動信号、ストップスイッチ4からのストップ信号を取得でき、ホールコンピュータと通信できる。ホールコンピュータからは、遊技店の営業形態など、その店に独特な情報が提供され、待機状態での透明Eパネル5の表示（詳細は後述）に使用される。

【0026】また、透明Eパネル5の遊技者側の面はタッチパネルとなっており、遊技者が指先でタッチした位置を示す情報が本体メイン基板13に入力される。さらに、CCDカメラ21の出力は画像処理回路22に入力され、画像処理回路22の出力が入力回路20dに入力される。画像処理回路22はCCDカメラ21の画像データに画像処理を施してスロットマシン15の前方に

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人が居るか居ないか、すなわち遊技者の存否を示すデータを出力する。つまり、CCDカメラ21と画像処理回路22とで存否検出手段を構成している。

【0027】一方、出力回路20eには、駆動回路12、蛍光灯9、モータ2b等が接続されており、本体メイン基板13は、駆動回路12を介しての透明Eパネル5の表示内容の制御、蛍光灯9の点滅制御、モータ2bの制御等が可能である。次に、このスロットマシン15の動作を説明する。

【0028】スロットマシン15にはゲームを実行するモード（実行状態）と待機しているモード（待機状態）とがある。まずゲームの実行について説明する。なお、実行状態では、蛍光灯9は点灯されており、リール2aを十分に照明している。

【0029】ゲームを実行するために遊技者がメダル投入口14からメダルを投入すると、メダル投入センサ14aがメダルを検出する毎に投入信号を出力し、これが本体メイン基板13に入力される。すると、CPU20aは、投入信号すなわち投入されたメダル数（ベット数）に応じて有効な入賞ラインL1～L5を設定し、これを図4に示すように透明Eパネル5に表示させる。本実施例の場合、ベット数が1枚なら中段の入賞ラインL1が有効とされ、ベット数が2枚ならさらに上段と下段の入賞ラインL2、L3が有効とされ、ベット数が3枚ならさらに対角線に沿った入賞ラインL4、L5が有効とされ、有効なラインだけが表示される。有効になった入賞ラインL1～L5だけが透明Eパネル5にて表示されるので、これを遊技者に明瞭に示すことができる。

【0030】また、予め多数のメダルを投入しておいて（クレジットにして）、ゲームを行うことも可能である。クレジットゲームの場合は、ベットスイッチを操作してベット数を選択する。1回操作するとベット数が1枚、2回操作すると2枚、3回操作すれば3枚であり、ベット数分だけクレジット数が減算される。有効な入賞ラインL1～L5の設定は上記のメダル投入によるベットの場合と同様である。クレジットゲームの場合には、図4に示すようにクレジット数残高（図示の場合3枚）が透明Eパネル5に表示される。

【0031】メダルの投入あるいはベットスイッチの操作により有効な入賞ラインL1～L5が決まってから、遊技者がスタートレバー3を押し下げると、これに連動するスタートスイッチ3aからの始動信号が本体メイン基板13に入力される。すると、CPU20aは、3つのモータ2bの回転を開始させ、3本のリール2aを回転させる。これにより図柄2cが変動表示される。

【0032】またCPU20aは、始動信号が入力されると例えばRAM20cの一部を使用するソフトウェアカウンタによって生成された乱数値を読み込んで、これが複数種類用意されている当たり値のいずれかと一致す

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るか否かにより、入賞、ボーナスモードまたはビッグボーナスモードへの移行或いは外れを判定する。入賞には当たり値によってランクがあり、例えば2枚払出の入賞から15枚払出の入賞までさまざまである。

【0033】そして、この判定結果に基づいて、リール2aの停止時に静止表示する図柄2cの組合せを決める。入賞の場合、例えば「ダイヤ、ダイヤ、ダイヤ」、「スイカ、スイカ、スイカ」、「チェリー、－、－」（向かって左のリール2aにチェリーの図柄2cを静止表示させ、他のリール2aの図柄31は特定しない。）等の図柄2cの組合せを選択する。また、ボーナスモードへの移行を決めた場合には、例えば「BAR、BAR、BAR」の図柄2cの組合せを、ビッグボーナスモードへの移行の場合は、例えば「7、7、7」の図柄2cの組合せを決める。ただし、どの図柄2cが静止表示されるかは遊技者によるストップスイッチ4の操作タイミングにもよるので、ここで決めた図柄2cの組合せが必ず静止表示されるというものではない。

【0034】リール2aの回転開始後にストップスイッチ4が操作されたことによりストップ信号が入力されると、CPU20aは、操作されたストップスイッチ4に対応するリール2aを停止させて図柄2cを静止表示させる。この際、CPU20aは、自身で決めた図柄2cの組合せとなるようにリール2aの停止位置を制御するが、ストップスイッチ4の操作から停止させるまでのリール2aの回転量にはおのずと制限があるので（スイッチ操作から停止までの時間が長いと遊技者が不快感を抱くので）、ほとんど即座に停止させなければならない。したがって、決めた通りの図柄2cの組合せとならないこともある。

【0035】3つのリール2aがすべて停止すると、CPU20aは、リール2aの停止位置に基づいて、有効な入賞ラインL1～L5に静止表示された図柄2cにて入賞の組み合わせが成立しているか否かを判定し、入賞が成立していれば払出装置を駆動させてメダルを払い出させる。クレジットゲームの場合、メダルの払出に代えてクレジット数を加算する。

【0036】このときに、上記に例示した特別な組み合わせ、例えば「BAR、BAR、BAR」が成立していればボーナスモードに移行し、例えば「7、7、7」が成立していればビッグボーナスモードへ移行する。ボーナスモードで実行されるボーナスゲーム及びビッグボーナスモードで実行されるビッグボーナスゲームでは、例えば「7、7、7」の図柄2cの組合せが成立しやすくなり、多数のメダルを獲得することが可能となる。ボーナスゲーム及びビッグボーナスゲームの内容は周知であるので、説明は省略する。

【0037】次に待機状態について説明する。図5に示すのは、CPU20aが適宜のタイミング毎に（例えばタイマ割込で）繰り返す利用状態判別処理のフローチャ

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ートである。この利用状態判別処理では、CPU20aは、まず待機状態フラグF=1か否かを判断する(S41)。待機状態フラグFは、スロットマシン15が遊技に利用されていない待機状態にあるか否かを示すフラグで、これが1にセットされていることは既に待機状態であることを示しているため、実質的な処理は行わずに本処理を終了する。

【0038】待機状態フラグFが1でなければ(つまり待機状態になっていないときには)、画像処理回路22からのデータに基づいて、連続して15秒以上遊技者が居ない状態が続いているか否かを判断する(S42)。肯定判断(遊技者なし)なら待機状態フラグFを1にセットして(S44)本処理を終了する。S42で否定判断(遊技者有り)の場合でも、実際に遊技が行われてなければ待機状態であるから、それを判断する必要がある。本実施例の場合は、30秒以上にわたってベット(メダルの投入またはクレジット時のベットスイッチの操作)が行われない場合に、待機状態となる設定であるので、ここでは30秒以上にわたってベットなしか否かを判断する(S43)。そして肯定判断(ベットなし)なら、待機状態フラグFを1にセットして(S44)本処理を終了する。

【0039】なお、ここに示した時間(S42の15秒、S43の30秒)はあくまでも例示であり、遊技機の種類、営業形態、その他の条件に応じて任意に設定できる。また、開店時に遊技機を起動した際に待機状態とするか遊技状態とするかも、任意に設定可能である。

【0040】次に待機状態におけるスロットマシン15の動作について、透明ELパネル5の表示を中心に説明する。図6に示すように、CPU20aが適宜のタイミング毎に(例えばタイマ割込で)繰り返す待機時表示制御処理では、CPU20aは、スロットマシン15が待機状態にあるか否かを、待機状態フラグFが1にセットされているか否かで判断する(S51)。待機状態でなければ、実質的な処理は行わずに本処理を終了する。

【0041】待機状態であると(S51:YES)、蛍光灯9を消灯させ(S52)、透明ELパネル5に図7に示すようなメニューを表示させる(S53)。この透明ELパネル5の遊技者側の面はタッチパネルとなっているので、遊技者が指先でメニューのいずれかの項目にタッチすることで、その項目を選択できる。

【0042】次にCPU20aは、遊技者が居ないために待機状態にあるのか遊技者が居るが遊技が行われないために待機状態にあるのかを、遊技者の存否によって判断する(S54)。この判断の基礎は画像処理回路22のデータである。遊技者が居なければスロットマシン15に対して何らかの操作が行われることはないから、この処理を一旦終了する。

【0043】遊技者が居れば、透明ELパネル5に表示されているメニューのいずれかの項目にタッチされたか

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否か、つまりいずれかの項目が選択されたか否かを判断する(S55)。選択がない場合には(S55:NO)、CPU20aはメダル投入センサ14aからの投入信号があったか否かを判断する(S56)。メダルが投入されたことはゲームの開始を意味するから、投入信号が入力されていれば(S56:YES)待機状態の終了として、待機状態フラグFをクリアする(S57)。投入信号がない場合には(S56:NO)、S55に戻る。なお、説明を簡明にするためにS56で否定判断ならS55に帰帰するとしているが、実際にはCPU20aは、S56で否定判断ならこの処理を一旦終了して他の処理を実行する構成である。

【0044】メニュー中からの選択があれば、CPU20aは「6. ゲーム開始」が選択されたか否かを判断する(S58)。ゲーム開始が選択された場合には(S58:YES)、遊技者がこれからゲームを行うという意思表示をしたことになるので、この場合も待機状態を終了する(S57)。

【0045】「6. ゲーム開始」以外が選択された場合には(S58:NO)、選択された項目に応じた内容を透明ELパネル5に表示させる(S59)。具体的には、「1. 遊び方の説明」であれば、このスロットマシン15でのゲームの方法等を説明する文字などを表示させ(図8(a)参照)、「2. 本日の実績」であれば、このスロットマシン15の始動回数、ボーナスゲームやビッグボーナスゲームの成立回数などを表示させ(図8(b))、「3. 機種紹介」ならスロットマシンメーカーの他の機種や他の遊技機を紹介する表示をさせ、

「4. 営業案内」ならスロットマシン15が設置されている遊技店の開店、閉店時間や定置割、ラッキーナンバー割、無制限などの営業形態についての情報を表示させ、「5. 食事休憩」が選ばれた場合には、このスロットマシン15を使用している遊技者が昼食等で一時的に席を離れている旨の表示をさせる(図8(c))。

「1. 遊び方の説明」及び「5. 食事休憩」の表示データはROM20bに格納されており、「2. 本日の実績」はRAM20cに記憶しておいたデータに基づき、「3. 機種紹介」及び「4. 営業案内」の内容は、ホールコンピュータから取得したものである。このS59の後あるいは前述のS57の後、本処理からリターンする。

【0046】なお、図示は省略するが、待機状態ではない場合でも、スロットマシン15に故障が発生した場合には、同様に蛍光灯9を消灯して故障の内容などを透明ELパネル5に表示する。この故障表示の場合、ゲームが実行されているときには行い難いので、その場合には、まず遊技者にゲームを一時中止して店員を呼ぶように促す表示をして、ゲームが中止されたこと(例えば新たなメダルの投入がなされないこと)を確認後、故障箇所や故障内容を表示する。

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【0047】このように、待機状態でゲームとは直接関係のない情報を透明Eパネル5に表示させる際には、蛍光灯9が消灯されて透明Eパネル5の背後側が暗くなるので、透明Eパネル5の表示が背後側のリール2a等と重畳して見えにくくなるおそれはない。

【0048】また、故障などに伴ってゲーム以外の表示をする場合も、同様に蛍光灯9が消灯されるので、そうした故障などの情報を明瞭に表示できる。透明Eパネル5は、実行状態にあるときは入賞ラインL1～L5やクレジット数などを表示するので、遊技者はゲームに関

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2625 2

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の案内等の表示の例示図である。

【図9】 利用状態判別処理の変形例のフローチャートである。

【図10】 透過型液晶シャッターによって背後側表示手段の認識具合を制御する構成の例示図である。

【図11】 半透過反射板によって背後側表示手段の認識具合を制御する構成の例示図である。

【符号の説明】

2 回転リール表示器（背後側表示手段）

*

* 2 a リール

5 透明ELパネル（前面側表示手段）

9 蛍光灯（照明手段）

13 本体メイン基板

15 スロットマシン（遊技機）

20 a CPU（状態判別手段、制御手段、前面側表示制御手段）

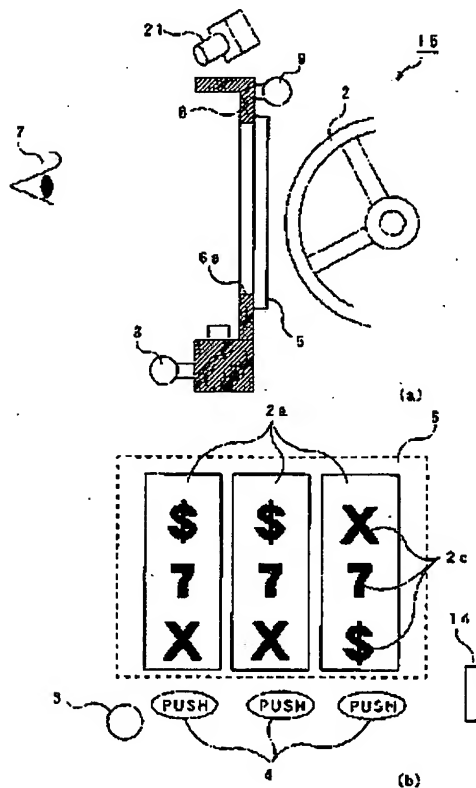
21 CCDカメラ（存否検出手段）

*

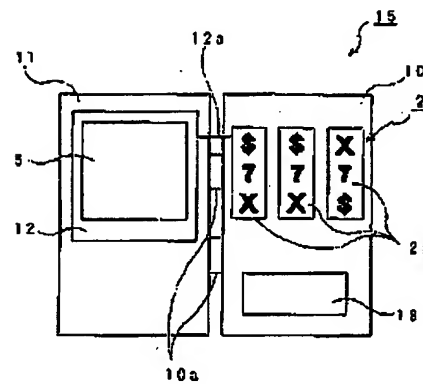
22 画像処理回路（存否検出手段）

14

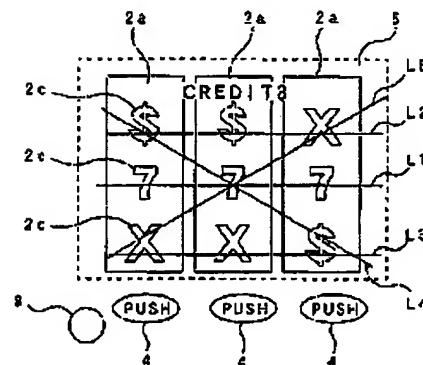
【図1】



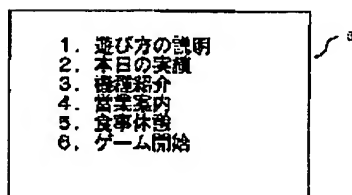
【図2】



【図3】



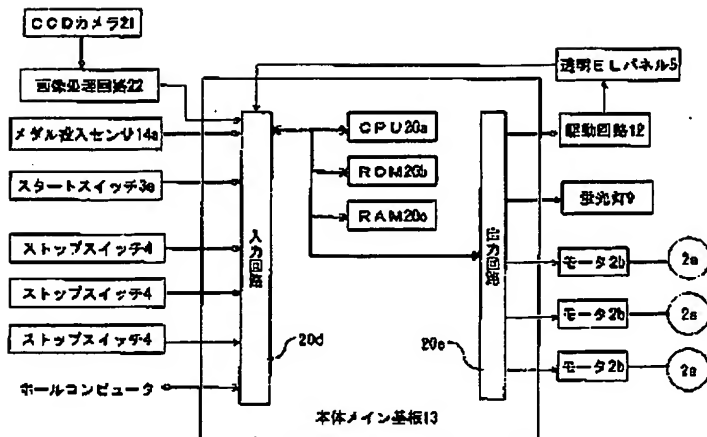
【図7】



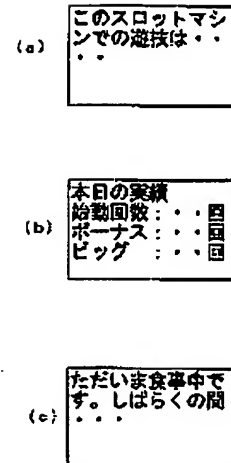
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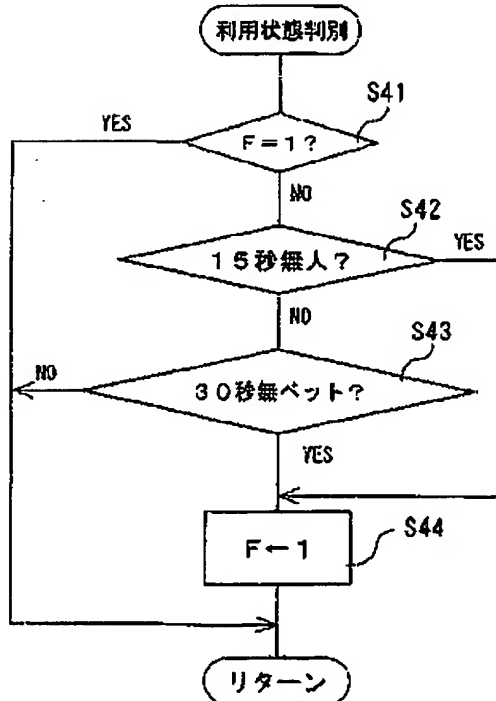
【図4】



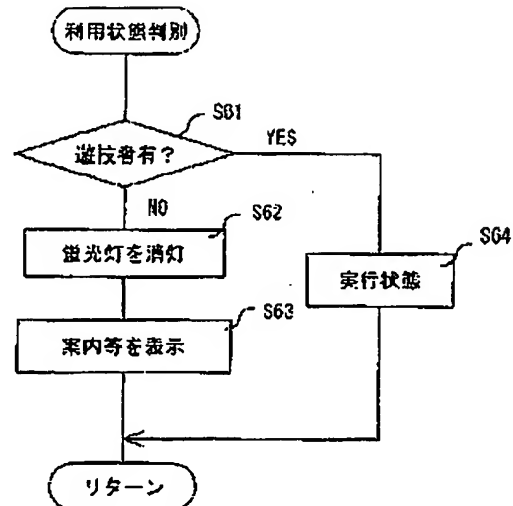
【図8】



【図5】



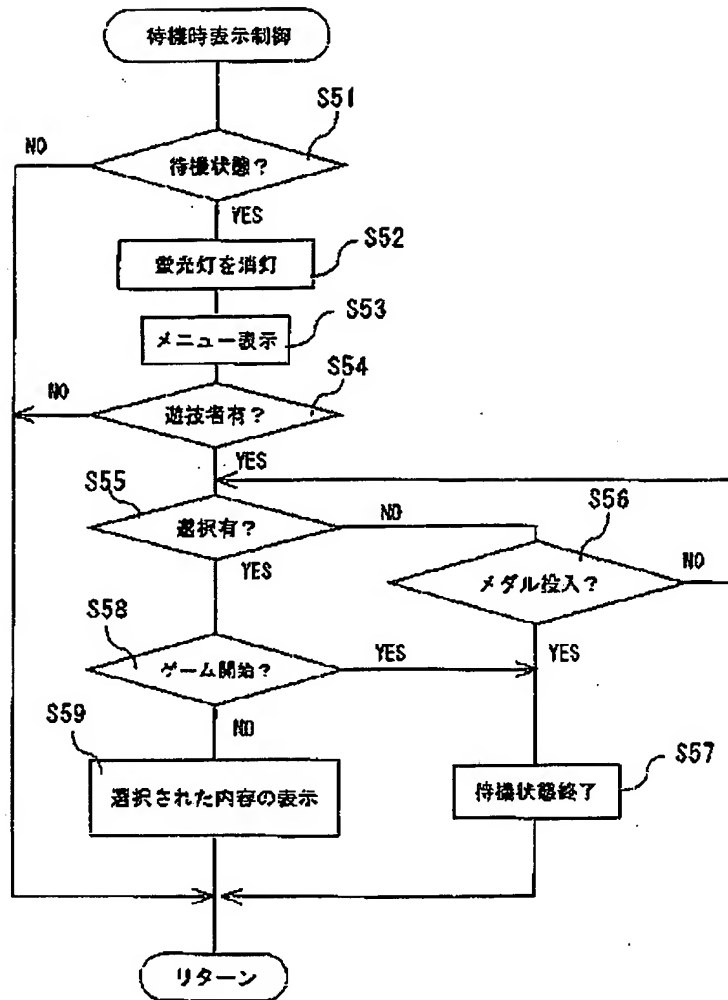
【図9】



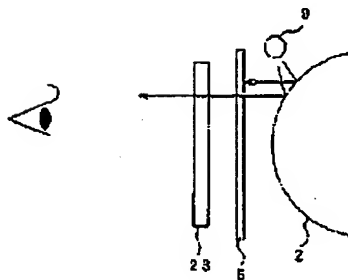
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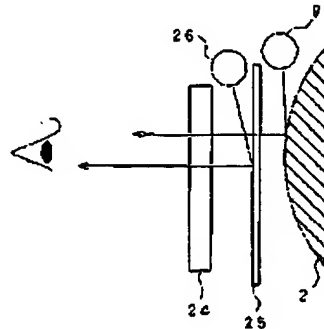
【図6】



【図10】



【図11】



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512 F

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【手続補正音】

【提出日】平成14年10月28日(2002. 10. 28)

【手続補正1】

【補正対象音類名】明細書

【補正対象項目名】0009

【補正方法】変更

【補正内容】

【0009】背後側表示手段としては、照明の存在下で表示が明瞭になる形態のもの、例えば図柄が描かれているリール(ドラム)やベルト等の回転体の回転と停止で図柄を表示する機械的な表示手段を備えるものや、EL表示器、CRT、LEDのドットマトリクスのように自発光するものを採用できる。照明の存在下で表示が明瞭になる形態のものであれば、その照明の明るさを制御すればよいし、EL表示器、CRT等の自発光するものならその発光の強さ(強度)を制御すればよい。この際に照明やEL表示器、CRT等を消灯することも可能である。

【手続補正2】

【補正対象音類名】明細書

【補正対象項目名】0029

【補正方法】変更

【補正内容】

【0029】ゲームを実行するために遊技者がメダル投入口14からメダルを投入すると、メダル投入センサ14aがメダルを検出する毎に投入信号を出力し、これが本体メイン基板13に入力される。すると、CPU20aは、投入信号すなわち投入されたメダル数(ベット数)に応じて有効な入賞ラインL1～L5を設定し、これを図3に示すように透明ELパネル5に表示させる。本実施例の場合、ベット数が1枚なら中段の入賞ラインL1が有効とされ、ベット数が2枚ならさらに上段と下

段の入賞ラインL2、L3が有効とされ、ベット数が3枚ならさらに対角線に沿った入賞ラインL4、L5が有効とされ、有効なラインだけが表示される。有効になった入賞ラインL1～L5だけが透明ELパネル5にて表示されるので、これを遊技者に明瞭に示すことができる。

【手続補正3】

【補正対象音類名】明細書

【補正対象項目名】0030

【補正方法】変更

【補正内容】

【0030】また、予め多数のメダルを投入しておいて(クレジットにして)、ゲームを行うことも可能である。クレジットゲームの場合は、ベットスイッチを操作してベット数を選択する。1回操作するとベット数が1枚、2回操作すると2枚、3回操作すれば3枚であり、ベット数分だけクレジット数が減算される。有効な入賞ラインL1～L5の設定は上記のメダル投入によるベットの場合同様である。クレジットゲームの場合には、図3に示すようにクレジット数残高(図示の場合3枚)が透明ELパネル5に表示される。

【手続補正4】

【補正対象音類名】明細書

【補正対象項目名】0033

【補正方法】変更

【補正内容】

【0033】そして、この判定結果に基づいて、リール2aの停止時に静止表示する図柄2cの組合せを決める。入賞の場合、例えば「ダイヤ、ダイヤ、ダイヤ」、「スイカ、スイカ、スイカ」、「チェリー、ー、ー」(向かって左のリール2aにチェリーの図柄2cを静止表示させ、他のリール2aの図柄2cは特定しない。)

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等の図柄2 cの組合せを選択する。また、ボーナスモードへの移行を決めた場合には、例えば「BAR, BAR, BAR」の図柄2 cの組合せを、ビッグボーナスモードへの移行の場合は、例えば「7, 7, 7」の図柄2

cの組合せを決める。ただし、どの図柄2 cが静止表示されるかは遊技者によるストップスイッチ4の操作タイミングにもよるので、ここで決めた図柄2 cの組合せが必ず静止表示されるというものではない。

JP,2001-252394,A

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